

VOLUME 60 JULY-DECEMBER 1995

THE
ANNALS OF
THORACIC
SURGERY

*Official Journal of The Society of Thoracic Surgeons
and the Southern Surgical Association*



THE ANNALS OF THORACIC SURGERY



*Official Journal of The Society of Thoracic Surgeons
and the Southern Thoracic Surgical Association*

EDITOR

Thomas B. Ferguson, MD, St. Louis, MO

Herbert Sloan, MD, Editor 1969-1984

John D. Steele, MD, Editor 1964-1969

ASSOCIATE EDITORS

John R. Benfield, MD, Sacramento, CA

Anthony R. C. Dobell, MD, Montreal, Canada

Hassan Najafi, MD, Chicago, IL

J. Kent Trinkle, MD, San Antonio, TX

Thomas W. Shields, MD, Book Review Editor

Northwestern Memorial Hospital

250 E Superior St, Suite 201, Chicago, IL 60611

EDITORIAL BOARD

Hendrick B. Barner, MD, St. Louis, MO

Ray Chu-Jeng Chiu, MD, PhD, Montreal, Canada

Jack G. Copeland III, MD, Tucson, AZ

Delos M. Cosgrove III, MD, Cleveland, OH

Tirone E. David, MD, Toronto, Canada

Richard M. Engelmann, MD, Springfield, MA

Timothy J. Gardner, MD, Philadelphia, PA

William A. Gay, Jr, MD, St. Louis, MO

Robert J. Ginsberg, MD, New York, NY

Bartley P. Griffith, MD, Pittsburgh, PA

Robert A. Guyton, MD, Atlanta, GA

John W. Hammon, Jr, MD, Winston-Salem, NC

Clement A. Hiebert, MD, Windham, ME

Takashi Iwa, MD, Kanazawa, Japan

Tom R. Karl, MD, Melbourne, Australia

Irving L. Kron, MD, Charlottesville, VA

James E. Lowe, MD, Durham, NC

Douglas J. Mathisen, MD, Boston, MA

Philippe Menasché, MD, PhD, Paris, France

Keith S. Naunheim, MD, St. Louis, MO

William I. Norwood, Jr, MD, PhD, Genolier, Switzerland

Mark B. Orringer, MD, Ann Arbor, MI

Peter C. Pairolo, MD, Rochester, MN

W. Gerald Rainer, MD, Denver, CO

Jaroslav Stark, MD, London, England

Larry W. Stephenson, MD, Detroit, MI

Julie A. Swain, MD, Kenosha, WI

Kenneth M. Taylor, MD, London, England

ADMINISTRATIVE EDITOR

Carol L. Blasberg, St. Louis, MO

Editorial Office

The Annals of Thoracic Surgery

3108 Queeny Tower

Barnes Hospital Plaza

St. Louis, MO 63110-1041

(314) 361-6084 FAX: (314) 367-0585

To provide a place for ALL thoracic surgeons to relate experiences
which will help other practicing thoracic surgeons give better patient care.

Herbert Sloan, MD

Contents

Number 1 July 1995

EDITORIAL

1 Secondary Prevention of Atherosclerosis: Emphasizing Risk Factor Management to Patients
Loren F. Hiratzka, MD

J. MAXWELL CHAMBERLAIN MEMORIAL PAPER

2 Use of the "Elephant Trunk Technique" in Aortic Surgery
Markus K. Heinemann, MD, Beate Buehner, MD, Michael J. Jurmann, MD, and Hans-Georg Borst, MD

HONORED GUEST ADDRESS

8 Politics: A Surgeon's Road to the Senate
The Honorable William H. Frist, MD

ORIGINAL ARTICLES

12 Cellular Cardiomyoplasty: Myocardial Regeneration With Satellite Cell Implantation
Ray C.-J. Chiu, MD, PhD, Audrius Zibaitis, MD, and Race L. Kao, PhD

19 Revascularization After Acute Myocardial Infarction
Lawrence L. Creswell, MD, Michael J. Moulton, MD, James L. Cox, MD, and Michael Rosenbloom, MD

27 Helical Computed Tomography for the Evaluation of Tracheal Stenosis
Richard I. Whyte, MD, Leslie E. Quint, MD, Ella A. Kazerooni, MD, Philip N. Cascade, MD, Mark D. Iannettoni, MD, and Mark B. Orringer, MD

32 Successful Xenotransplantation of Human Lung Cancer Correlates With the Metastatic Phenotype
Jeremy R. Johnson, BA, William G. Hammond, MD, John R. Benfield, MD, and Henry Tesluk, MD

38 Pulmonary Function After Non-Heart-Beating Lung Donation in a Survival Model
Scott A. Buchanan, MD, Nuno F. DeLima, MD, Oliver A. R. Binns, MD, Michael C. Mauney, MD, Jeffrey T. Cope, MD, Scott E. Langenburg, MD, Kim S. Shockley, MS, Joe D. Bianchi, MD, Vikas I. Parekh, BS, Curtis G. Tribble, MD, and Irving L. Kron, MD

47 Myocardial Performance After Graft Preservation and Subsequent Cardiac Transplantation From Brain-Dead Donors
Hartmuth B. Bittner, MD, PhD, Simon W. H. Kendall, FRCS, Edward P. Chen, MD, Robert D. Davis, MD, and Peter Van Trigt III, MD

55 Absorbable Polydioxanone Suture and Results in Total Anomalous Pulmonary Venous Connection
John A. Hawkins, MD, L. LuAnn Minich, MD, Lloyd Y. Tani, MD, Herbert D. Ruttenberg, MD, Jane E. Sturtevant, BSN, and Edwin C. McGough, MD

60 Coronary Artery Bypass Grafting in Patients After Failure of Intracoronary Stenting
Joseph M. Craver, MD, Alexander G. Justicz, MD, William S. Weintraub, MD, Yannan Shen, MS, Robert A. Guyton, MD, John Parker Gott, MD, and Ellis L. Jones, MD

67 Hypothermic Bypass and Circulatory Arrest for Operations on the Descending Thoracic and Thoracoabdominal Aorta
Nicholas T. Kouhoukos, MD, Bill B. Daily, MD, PhD, Chris K. Rokkas, MD, Suzan F. Murphy, RN, Spomenko Bauer, MD, and Nabil Abboud, MD

78 Ventricular Effluent of Retrograde Cardioplegia in Human Hearts Has Traversed Capillary Beds
Abbas Ardehali, MD, Hillel Laks, MD, Davis C. Drinkwater, Jr, MD, Richard N. Gates, MD, and Elias Kaczer, BS

84 Aortic Implantation Is Possible in All Cases of Anomalous Origin of the Left Coronary Artery From the Pulmonary Artery
Kevin Turley, MD, Robert J. Szarnicki, MD, Keith D. Flachsbart, MD, Richard C. Richter, MD, Robert W. Popper, MD, and Harold Tarnoff, MD

90 Surgical Intervention for Infective Endocarditis in Infancy and Childhood
Fumikazu Nomura, MD, Daniel J. Penny, MD, Samuel Menahem, MD, Ash Pawade, FRCS, and Tom R. Karl, MD

96 Cardiac Operations in Patients Aged 70 Years and Over: Mortality, Length of Stay, and Hospital Charge
Nevin M. Katz, MD, Robert L. Hannan, MD, Richard A. Hopkins, MD, and Robert B. Wallace, MD

102 Radial Artery Graft for Coronary Revascularization: Technical Considerations
Charles A. Dietl, MD, and Charles H. Benoit, MD

111 Seventy-two Pulmonary Retransplantations for Obliterative Bronchiolitis: Predictors of Survival
Richard J. Novick, MD, Hans-Joachim Schäfers, MD, Larry Stitt, MSc, Bernard Andréassian, MD, Walter Klepetko, MD, Robert L. Hardesty, MD, Adaani Frost, MD, and G. Alexander Patterson, MD

117 Penetrating Intrapericardial Wounds: Clinical Experience With a Surgical Protocol
Scott B. Johnson, MD, James L. Nielsen, MD, Edward Y. Sako, MD, PhD, John H. Calhoon, MD, J. Kent Trinkle, MD, and O. LaWayne Miller, MD

122 Late Outcome of Survivors of Intervention for Neonatal Aortic Valve Stenosis
J. William Gaynor, MD, Catherine Bull, MD, Ian D. Sullivan, MD, Brenda E. Armstrong, MD, John E. Deanfield, FRCP, James F. N. Taylor, MD, Philip G. Rees, MD, Ross M. Ungerleider, MD, Marc R. de Leval, MD, Jaroslav Stark, MD, and Martin J. Elliott, FRCS

127 Cost-Effectiveness and Predictors of Early Extubation
Kit V. Arom, MD, PhD, Robert W. Emery, MD, Rebecca J. Petersen, RN, and Marc Schwartz, BS

133 Determinants of Success in Pediatric Cardiac Patients Undergoing Extracorporeal Membrane Oxygenation
Michael D. Black, MD, John G. Coles, MD, William G. Williams, MD, Ivan M. Rebeyka, MD, George A. Trusler, MD, Desmond Bohn, MB, Colleen Gruenwald, CCP, and Robert M. Freedman, MD

139 Lung Transplantation After Previous Thoracic Surgical Procedures
Frank C. Dettberbeck, MD, Thomas M. Egan, MD, and Michael R. Mill, MD

144 Repair of Congenital and Acquired Pulmonary Vein Stenosis
Jacques A. M. van Son, MD, PhD, Gordon K. Danielson, MD, Francisco J. Puga, MD, William D. Edwards, MD, and David J. Driscoll, MD

151 Congenital Bronchoesophageal Fistulas in Adult Patients
Joo Hyun Kim, MD, Kay-Hyun Park, MD, Sook Whan Sung, MD, and Joon Ryang Rho, MD

156 Conversion of Postischemic Ventricular Fibrillation With Intraaortic Infusion of Potassium Chloride
Eivind Øvrum, MD, Geir Tangen, MD, Einfrid Åm Holen, MD, Mari-Anne L. Ringdal, CCP, and Reidar Istad, CCP

160 Cardiopulmonary Bypass Perfusion Temperature Does Not Influence Perioperative Renal Function
Idriss A. Regragui, FRCS, Mohammad Bashar Izzat, FRCS, Inderpaul Birdi, FRCS, Marta Lapsley, MB, BS, Alan J. Bryan, FRCS, and Gianni D. Angelini, FRCS

165 Cerebral Blood Flow Is Determined by Arterial Pressure and Not Cardiopulmonary Bypass Flow Rate
Arthur E. Schwartz, MD, Aqeel A. Sandhu, MD, Richard J. Kaplon, MD, William L. Young, MD, Amy E. Jonassen, MD, David C. Adams, MD, Niloo M. Edwards, MD, Joseph J. Sistino, CCP, Paweł Kwiatkowski, MD, and Robert E. Michler, MD
Invited Commentary
John M. Murkin, MD

171 The Toronto SPV Bioprosthesis: One-Year Results in 100 Patients
Friedrich W. Mohr, MD, Thomas Walther, MD, Mersa Baryalei, MD, Volkmar Falk, MD, Rüdiger Autschbach, MD, Albert Scheidt, MD, and Harald Dalichau, MD

176 Aortic Valve Resuspension in Ascending Aortic Aneurysm Repair With Aortic Insufficiency
Paul Simon, MD, Anton Mortiz, MD, Reinhard Moidl, MD, Natascha Kupilik, MD, Martin Grabenwoeger, MD, Marek Ehrlich, MD, and Michael Havel, MD

CASE REPORTS

181 Subacute Left Ventricular Tuberculoma
Rufus Baretti, MD, Lothar Eckel, MD, and Friedhelm Beyersdorf, MD

182 Multiple Leiomyomas of the Esophagus
Frederick H. Taylor, MD, Wayne Christenson, MD, Richard W. Zollinger II, MD, T. Arthur Edgerton, MD, and Charles D. Harr, MD

184 Cerebral Oxygenation During Retrograde Perfusion
Warren J. Levy, MD, Serle K. Levin, MD, and Joseph E. Bavaria, MD

186 Revascularization of the Internal Mammary Artery After Coronary Artery Bypass Grafting
Stanley A. Gall, Jr, MD, Clarence H. Owen, MD, Fiona M. Clements, MD, and Richard L. McCann, MD

188 Massive Phrenic Perineurioma Mimicking an Unresectable Cardiac Tumor
Marvin F. Ewy, MD, Todd L. Demmy, MD, Michael C. Perry, MD, Muthu S. Krishnan, MD, and Jack J. Curtis, MD

190 Homograft Patch Repair for Hemorrhagic Mediastinitis
Mark C. Felger, MD, O. LaWayne Miller, MD, John H. Calhoon, MD, Edward Y. Sako, MD, PhD, Scott B. Johnson, MD, Gregory P. Wittpenn, MD, and J. Kent Trinkle, MD

191 Aortoesophageal Fistula After Reconstruction of the Thoracic Spine
Neil R. Floch, MD, James C. Harvey, MD, and Edward J. Beattie, Jr, MD

193 Bronchopulmonary Sequestration Associated With an Aneurysm of the Aberrant Artery
Douglas P. B. Janssen, MD, Piet P. M. Schilte, MD, Casper S. De Graaff, MD, and Hans A. Van Dijk, MD

194 Novel Approach for Orthotopic Heart Transplantation in Visceroatrial Situs Inversus
Robert E. Michler, MD, and Aqeel A. Sandhu, MD

197 Repair of a Complex Body Wall Defect Using Polytetrafluoroethylene Patches
Frederic W. Grannis, Jr, MD, and Lawrence D. Wagman, MD

199 Role of Covered Esophageal Stents in Malignant Esophagorespiratory Fistula
Kit Wong, FRCS, and Peter Goldstraw, FRCS

200 Adjunctive Technique for Control of Hemorrhage During Repair of Cardiac Rupture
Masahiko Matsumoto, MD, Yutaka Konishi, MD, Sadatoshi Yuasa, MD, and Senri Miwa, MD

202 Coronary Artery Fistulas Presenting With Bacterial Endocarditis
Abdul M. Alkhulaifi, FRCS, Simon M. Horner, MRCP, Wilf B. Pugsley, FRCS, and R. Howard Swanton, FRCP

204 Late Renal Cell Carcinoma Metastasis to the Left Ventricular Outflow Tract
Scott M. Bradley, MD, and Steven F. Bolling, MD

206 Papillary Fibroelastoma of the Aortic Valve Presenting With Myocardial Infarction
Friedrich Stefan Eckstein, MD, Hans-Joachim Schäfers, MD, Jochen Grote, MD, Andreas Mügge, MD, and Hans-Georg Borst, MD

HOW TO DO IT

209 Prevention of Distal Limb Ischemia During Cardiopulmonary Support via Femoral Cannulation
Kevin L. Greason, MD, James R. Hemp, MD, J. Matthew Maxwell, MD, John E. Fetter, MD, and Ricardo J. Moreno-Cabral, MD

211 Revised Technique of Isolated Lung Perfusion in the Rat
Hong-Yue Wang, MD, Jeffrey L. Port, MD, Steven N. Hochwald, MD, and Michael E. Burt, MD, PhD

CURRENT REVIEWS

213 Alternatives in Biventricular Repair of Double-Outlet Left Ventricle
Serafin Y. DeLeon, MD, E. Phillip Ow, MD, Pipit Chiemmongkoltip, MD, Dolores A. Vitullo, MD, Jose A. Quinones, MD, Elizabeth A. Fisher, MD, Saroja Bharati, MD, Michel N. Ilbawi, MD, and Roque Pifarré, MD

217 Primary Malignant Melanoma of the Esophagus
Axel W. Joob, MD, G. Kenneth Haines III, MD, Merrill S. Kies, MD, and Thomas W. Shields, MD

KEY REFERENCES

223 Myasthenia Gravis
Julie A. Swain, MD

UPDATES

225 Mitral Valve Replacement With Preservation of Chordae Tendineae and Papillary Muscles
Shigehito Miki, MD, Yuichi Ueda, MD, Takafumi Tahata, MD, and Yutaka Okita, MD

227 Surgery for Scleroderma of the Esophagus: A 12-Year Experience
Kamal A. Mansour, MD

CORRESPONDENCE

228 A Method of Testing Repaired Mitral Valves During Concomitant Aortic Valve Replacement
Amit Banerjee, MCh, Mohammed Akhter, MCh, and Sudershan K. Khanna, MCh

228 To Staple, Suture, or Ligate the Bronchus
Solomon Victor, FRCS, Vijaya M. Nayak, MS, and Meerasahib Kabeer, MD
Reply
Peter Goldstraw, FRCS

229 Lecompte Maneuver for Truncus Arteriosus With Type B Arch Interruption: Is This a Panacea?
Daniel M. Cohen, MD

229 Surgical Revascularization for Left Main Coronary Artery Atresia
Antonello Musiani, MD, Ezio Micalizzi, MD, and Carlo De Gasperis, MD
Reply
Probal K. Ghosh, FRCSEd

231 Radial Artery Harvest
Richard F. Brodman, MD

231 Jugular Bulb Saturation and Cognitive Dysfunction After Cardiopulmonary Bypass
W. Alan C. Mutch, MD
Reply
Mark F. Newman, MD, Narda D. Croughwell, CRNA, and Joseph G. Reves, MD

232 Coronary Artery Bypass Operation After Pneumonectomy
M. Murat Demirtaş, MD, Hacı Akar, MD, Mehmet Kaplan, MD, and Sabri Dağsalı, MD

233 Inadequacy, Mortality, and Thoracoscopy
Garrett L. Walsh, MD, and Jonathan C. Nesbitt, MD

233 Percutaneous Transthoracic Needle Biopsy of the Lung
Robert B. Wagner, MD

234 Cardiac Papillary Fibroelastoma
Virginia M. Walley, MD, and Sharon A. Boone, MD

REVIEW OF RECENT BOOKS

170 Case Reports I, Clinical Studies in Extracorporeal Circulation, edited by Trudy B. Stafford, John M. Toomasian, and Mark Kurusz
Edward Y. Sako, MD, PhD

ANNOUNCEMENTS

A-29, 30 Information for Authors

A-31 Guidelines for the Submission of Electronic Manuscripts

A-34 Forthcoming Articles

A-32, 33 Events of Interest

37 Important Announcement for Authors

66 Notice Regarding "Our Surgical Heritage" Section

126 The Society of Thoracic Surgeons: Thirty-second Annual Meeting

143, 155 Notice From the American Board of Thoracic Surgery

180 Notice From the Southern Thoracic Surgical Association

234 Correction

A-35, 36 Call for Abstracts, The Society of Thoracic Surgeons

A-37, 38, 39 Classified Advertisements

A-46 Index to Advertisers

Number 2 August 1995

PRESIDENT'S PAGE

235 The First Six Months
John R. Benfield, MD

EDITORIAL

236 The Education of Thoracic and Cardiac Surgeons: A Canadian Initiative
David S. Mulder, MD, and Martin F. McKneally, MD, PhD

ORIGINAL ARTICLES: GENERAL THORACIC

239 Buthionine Sulfoximine Pretreatment Potentiates the Effect of Isolated Lung Perfusion With Doxorubicin
Jeffrey L. Port, MD, Steven N. Hochwald, MD, Hong-Yue Wang, MD, and Michael E. Burt, MD, PhD

245 Reinforced Primary Repair of Thoracic Esophageal Perforation
Cameron D. Wright, MD, Douglas J. Mathisen, MD, John C. Wain, MD, Ashby C. Moncure, MD, Alan D. Hilgenberg, MD, and Hermes C. Grillo, MD

250 Surgical Treatment of Nontumoral Stenoses of the Upper Airway
Louis Couraud, MD, Jacques B. Jougon, MD, and Jean-François Velly, MD

261 Esophageal Replacement: Gastric Tube or Whole Stomach?
Jean-Marie Collard, MD, Nicolas Tinton, MD, Jacques Malaise, MD, Renato Romagnoli, MD, Jean-Bernard Otte, MD, and Paul-Jacques Kestens, MD

268 MRI Complements Standard Assessment of Right Ventricular Function After Lung Transplantation
William H. Frist, MD, Christine H. Lorenz, PhD, Eloisa S. Walker, MD, James E. Lloyd, MD, James R. Stewart, MD, Thomas P. Graham, Jr, MD, Daryl P. Pearlstein, BA, Steven P. Key, MD, and Walter H. Merrill, MD

272 Isolated Thoracic Duct Injury After Penetrating Chest Trauma
Michael G. Worthington, FCS(SA), Mark de Groot, FRCS(C), Alfred J. Gunning, FRCS(E), and Ulrich O. von Oppell, FCS(SA), PhD

ORIGINAL ARTICLES:
CARDIOVASCULAR

275 Complete Atrioventricular Cardiac Transplantation: Improved Performance Compared With the Standard Technique
Hartmuth B. Bittner, MD, PhD, Simon W. H. Kendall, FRCS, Edward P. Chen, MD, Robert D. Davis, MD, and Peter Van Trigt III, MD

284 Mechanical Ventricular Assistance: An Economical and Effective Means of Treating End-Stage Heart Disease
Sanjay M. Mehta, MD, Thomas X. Aufiero, MD, Walter E. Pae, Jr, MD, Cynthia A. Miller, BS, and William S. Pierce, MD

292 3,5,3' Triiodo-L-Thyronine Pretreatment With Cardioplegic Arrest and Chronic Left Ventricular Dysfunction
Jennifer D. Walker, MD, Fred A. Crawford, Jr, MD, and Francis G. Spinale, MD, PhD

300 Nitric Oxide Is Superior to Prostacyclin for Pulmonary Hypertension After Cardiac Operations
Allan P. Goldman, MRCP, Ralph E. Delius, MD, John E. Deanfield, FRCP, and Duncan J. Macrae, FRCA

307 Does Aprotinin Increase the Myocardial Damage in the Setting of Ischemia and Preconditioning?
Emad A. Bukhari, MD, Irvin B. Krukenkamp, MD, Paul G. Burns, MD, Glenn R. Gaudette, MSc, Joshua J. Schulman, Mohammed R. Al-Fagih, MD, and Sidney Levitsky, MD

311 Safety and Efficacy of Concomitant Carotid and Coronary Artery Operations
Cary W. Akins, MD, Ashby C. Moncure, MD, Willard M. Daggett, MD, Richard P. Cambria, MD, Alan D. Hilgenberg, MD, David F. Torchiana, MD, and Gus J. Vlahakes, MD

319 Retrograde Cerebral Perfusion Does Not Perfuse the Brain in Nonhuman Primates
Christiane J. Boeckxstaens, MD, and Willem J. Flameng, MD

329 Pediatric Cardiac Surgical ECMO: Multivariate Analysis of Risk Factors for Hospital Death
Henry L. Walters III, MD, Mehdi Hakimi, MD, Michael D. Rice, BS, Juanita M. Lyons, MS, Grant C. Whittlesey, CCP, and Michael D. Klein, MD

338 Myocardial Mitochondrial Calcium Accumulation Modulates Nuclear Calcium Accumulation and DNA Fragmentation
Elizabeth A. Faulk, MD, James D. McCully, PhD, Takuro Tsukube, MD, Narelle C. Hadlow, MD, Irvin B. Krukenkamp, MD, and Sidney Levitsky, MD

345 Retrograde Cerebral and Distal Aortic Perfusion During Ascending and Thoracoabdominal Aortic Operations
Joseph E. Bavaria, MD, Y. Joseph Woo, MD, R. Alan Hall, MD, Jeffrey P. Carpenter, MD, and Timothy J. Gardner, MD

354 Left Atrial Function After Cox's Maze Operation Concomitant With Mitral Valve Operation
Toshiaki Itoh, MD, Hiroshi Okamoto, MD, Takao Nimi, MD, Shin Morita, MD, Masaru Sawazaki, MD, Yutaka Ogawa, MD, Teiji Asakura, MD, Kenzo Yasuura, MD, Toshio Abe, MD, and Mitsuya Murase, MD
Invited Commentary
James L. Cox, MD

361 Cox Maze Operation Without Cryoablation for the Treatment of Chronic Atrial Fibrillation
Francisco Gregori, Jr, MD, Celso O. Cordeiro, MD, Wilson J. Couto, MD, Samuel S. da Silva, MD, Wallace K. de Aquino, MD, and Antonio Nechar, Jr, MD
Invited Commentary
Patrick M. McCarthy, MD, and Gregory M. Scalia, FRACP

365 Completely Heparinized Cardiopulmonary Bypass and Reduced Systemic Heparin: Clinical and Hemostatic Effects
Eivind Ørvrum, MD, Einfrid Åm Holen, MD, Geir Tangen, MD, Frank Brosstad, MD, PhD, Michel Abdelnoor, PhD, Mari-Anne L. Ringdal, CCP, Rolf Øystese, CCP, and Reidar Istad, CCP

372 Antithymocyte Globulin and Methotrexate Therapy of Severe or Persistent Cardiac Allograft Rejection
Pasquale Ferraro, MD, Michel Carrier, MD, Michel White, MD, Guy B. Pelletier, MD, and L. Conrad Pelletier, MD

377 Inhibition of Na^+/H^+ Exchanger Attenuates Neutrophil-Mediated Reperfusion Injury
Farid C. Faes, MD, Yoshiki Sawa, MD, Hajime Ichikawa, MD, Yasuhisa Shimazaki, MD, Takeki Ohashi, MD, Hirotugu Fukuda, MD, Ryota Shirakura, MD, and Hikaru Matsuda, MD

382 Laparotomy After Using the Gastroepiploic Artery Graft: Retrogastric Versus Antegastric Route
Charles A. Dietl, MD, John E. Deitrick, MD, John C. West, MD, and Timothy J. Pagana, MD
Invited Commentary
Hisayoshi Suma, MD

387 Sternal Traction After Open Heart Operation: An Effective Alternative to Delayed Sternal Closure
M. Terry McEnany, MD

392 Left Ventricular Assistance With the Transthoracic 24F Hemopump for Recovery of the Failing Heart
Bart P. Meyns, MD, Paul T. Sergeant, MD, Wim J. Daenen, MD, and Willem J. Flameng, MD

398 BUN as a Risk Factor for Mortality After Coronary Artery Bypass Grafting
Arthur J. Hartz, MD, PhD, Evelyn M. Kuhn, PhD, Kenneth L. Kayser, MS, and W. Dudley Johnson, MD
Invited Commentary
George C. Kaiser, MD

405 Protamine Induces Endothelium-Dependent Vasodilatation of the Pulmonary Artery
Paulo R. B. Evora, MD, PhD, Paul J. Pearson, MD, PhD, and Hartzell V. Schaff, MD

411 Limiting Ischemic Myocardial Damage Using Glucose-Insulin-Potassium Solutions
Harold L. Lazar, MD, X. Zhang, MD, Samuel Rivers, BS, Sheilah Bernard, MD, and Richard J. Shemin, MD

417 Benefits of Aortic and Pulmonary Counterpulsation Using Dynamic Latissimus Dorsi Myoplasty
Edmundo I. Cabrera Fischer, MD, Juan-Carlos Chachques, MD, PhD, Alejandra I. Christen, MD, Marcelo R. Risk, EEng, and Alain F. Carpentier, MD, PhD

422 Influence of Bypass Grafting to the Infarct Artery on Late Potentials in Coronary Operations
Yasushi Terada, MD, Toshio Mitsui, MD, Shounosuke Matsushita, MD, Naotaka Atsumi, MD, Tomoaki Jikuya, MD, and Yuzuru Sakakibara, MD
Invited Commentary
Alden H. Harken, MD

426 Extended Transseptal Versus Conventional Left Atriectomy: Early Postoperative Study
Naresh Kumar, FRCS, Elias Saad, MD, Ganga Prabhakar, FRCS, Edward De Vol, PhD, and Carlos M. G. Duran, MD, PhD

CASE REPORTS

431 Thoracoscopic Excision of a Posterior Mediastinal "Dumbbell" Tumor Using a Combined Approach
James M. Heltzer, BA, Mark J. Krasna, MD, Francois Aldrich, MD, and Joseph S. McLaughlin, MD

433 Neonatal Pulmonary Vascular Disease in Hypoplastic Left Heart Syndrome
Stacey Brann, FRCS, William J. Brawn, FRCS, Faro Raafat, MD, and Narayanswami Sreeram, MD

435 A Rare Cause of Profound Cyanosis After Kawashima Modification of Bidirectional Cavopulmonary Anastomosis
Zdenek Slavik, MD, Robert K. Lamb, FRCS, Steven A. Webber, MB, ChB, David J. Delaney, MB, ChB(I), and Anthony P. Salmon, FRCP

437 Sternal Release and Advancement With Thoracotomy and Osteotomy for Idiopathic Osteopenia
Timothy M. Anderson, MD, William C. Horton, MD, Thomas E. Whitesides, MD, and Joseph I. Miller, Jr, MD

438 Surgical Management of Ventricular Tachycardia in Subannular Left Ventricular Aneurysm
Louis F. Janeira, MD, Uzi Talit, MD, Robert Parker, MD, Carolyn E. Hughes, MD, and Ishik C. Tuna, MD

440 Esophago-Airway Fistula in AIDS
R. Thomas Temes, MD, Rose S. Wong, MD, Michael Davis, MD, Randolph M. Kessler, MD, and Jorge A. Wernly, MD

442 Intravascular Ultrasound to Assess Anastomotic Patency After Lung Transplantation
Stuart T. Higano, MD, Michelle Gaffney, Rick A. Nishimura, MD, and Christopher G. A. McGregor, FRCS

444 Legionella Pericarditis Diagnosed by Direct Fluorescent Antibody Staining
John A. Puleo, MD, Fadi A. Matar, MD, Peter P. McKeown, FRACS, Patricia Conant, ARNP, and Lofty L. Basta, MD

446 Colobronchial Fistula Due to Crohn's Disease
Riyad Karmy-Jones, MD, Anees Chagpar, BMedSci, Eric Vallieres, MD, and Stuart Hamilton, MD

448 Video-Assisted Thoracic Surgical Repair of a Foramen of Bochdalek Hernia

Mark L. Silen, MD, David A. Canvasser, MD, Arlet G. Kurkchubasche, MD, Charles H. Andrus, MD, and Keith S. Naunheim, MD

450 Valved Conduit Bypass for Extensively Calcified Tricuspid Valve Stenosis

Patrice Dervanian, MD, Loïc Macé, MD, Santé Bucari, MD, Thierry A. Folliguet, MD, Jean-Michel Grinda, MD, and Jean-Yves Neveux, MD

452 Right Latissimus Dorsi Cardiomyoplasty in Diaphragm Eventration and Cardiac Malposition

Roberto Lorusso, MD, Giuseppe Coletti, MD, Antonio Della Valle, MD, Giuseppe Steffenino, MD, Giovanni Aliprandi, MD, and Ottavio Alfieri, MD

454 Pulmonary Arteriovenous Malformation Complicating Coccidioidal Pneumonia

Richard A. Braun, MD, Terry L. Buchmiller, MD, and Nayereh Khankhanian, MD

457 Excision of Focal Aortic Arch Atheroma Using Deep Hypothermic Circulatory Arrest

Scott J. Swanson, MD, and Lawrence H. Cohn, MD

458 Diaphragmatic Hernia After Right Gastroepiploic Artery Coronary Artery Bypass Grafting

Marnix A. Verhofstede, MD, and Stanley K. C. Tam, MD

Invited Commentary
Hisayoshi Suma, MD

460 Orthotopic Heart Transplantation in Situs Inversus

Jean E. Rubay, MD, Yves d'Udekem, MD, Thierry Sluysmans, MD, Robert Ponlot, MD, Luc Jacquet, MD, and Marc R. de Leval, MD

462 Organized Thrombus in Left Main Coronary Artery in Hypoplastic Left Heart Syndrome

Jacques A. M. van Son, MD, PhD, Michael D. Black, MD, Kim Devoe, MD, and Gary S. Haas, MD

HOW TO DO IT

464 An Alternative to Cardioplegia

Jan Pirk, MD, and Pavel Kellovský, MD

CURRENT REVIEWS

466 Survival in Early-Stage Non-Small Cell Lung Cancer

Jonathan C. Nesbitt, MD, Joe B. Putnam, Jr, MD, Garrett L. Walsh, MD, Jack A. Roth, MD, and Clifton F. Mountain, MD

473 On the Need for Improved Transfusion Indicators in Cardiac Surgery

Lawrence T. Goodnough, MD, George J. Despotis, MD, Charles W. Hogue, Jr, MD, and T. Bruce Ferguson, Jr, MD

UPDATES

481 Pulmonary Homograft Implantation for Ventricular Outflow Tract Reconstruction: Early Phase Results

Lynn B. McGrath, MD

483 Comparison of Bioimpedance and Thermodilution Methods for Determining Cardiac Output: Experimental and Clinical Studies

Francis G. Spinale, MD, PhD

REPORT

485 Report From The Thoracic Surgery Foundation for Research and Education

CORRESPONDENCE

487 Clearance After Lobectomy and the Role of Completion Pneumonectomy

Lindsay C. H. John, FRCS, Patrick G. Magee, FRCS, Alan J. Wood, FRCS, and Christopher T. Lewis, FRCS

487 Stent the Open Sternum After Cardiac Operations

Antonino M. Grande, MD, Gaetano Minzioni, MD, Marco L. Aiello, MD, Fabrizio Gazzoli, MD, and Mario Viganò, MD

Reply

David A. Fullerton, MD, Stephen D. Jones, MD, David N. Campbell, MD, James Jaggers, MD, James M. Brown, MD, Rosie Smith, and Frederick L. Grover, MD

488 Pneumonectomy for Infection

A. Alan Conlan, MD Stanley C. Fell, MD

Reply

Carolyn E. Reed, MD

490 Bronchopleural Fistula After Pneumonectomy

Dominique Metras, MD

Reply

Peter Goldstraw, FRCS

492 Importance of Early Relief of Aortic Outflow Obstruction in Univentricular Hearts

Jacques A. M. van Son, MD, PhD

Reply

Henry J. C. M. van de Wal, MD, PhD, Avram A. Benatar, MD, and Ger B. W. E. Bennink, MD, PhD

493 Pedicled Pericardial Fat Hemostasis
John M. Glotzer, MD
Reply
George Economopoulos, MD

REVIEW OF RECENT BOOKS

376 Reperfusion Injuries and Clinical Capillary Leak Syndrome, edited by B. A. Zikria, MD; co-edited by M. O. Oz, MD, and R. W. Carlson, MD, PhD
George M. Kroncke, MD

430 Implantable Cardioverter- Defibrillators, edited by N. A. Mark Estes III, MD, Antonis S. Minolis, MD, and Paul J. Wang, MD
A. Robert Cordell, MD

ANNOUNCEMENTS

A-27, 28 Information for Authors

A-29 Guidelines for the Submission of Electronic Manuscripts

A-30, 31 Events of Interest

A-32 Forthcoming Articles

244 Important Announcement for Authors

291 The Society of Thoracic Surgeons: Thirty-second Annual Meeting

353 Notice Regarding "Our Surgical Heritage" Section

360 Notice From the Southern Thoracic Surgical Association

381, 472 Notice From the American Board of Thoracic Surgery

A-33, 34 Classified Advertisements

A-40 Index to Advertisers

Number 2 August 1995 Supplement

S61 Introduction
W. R. Eric Jamieson, MD, and Tirone E. David, MD

ALLOGRAFTS

S65 Allograft Aortic Valve Replacement: Long-Term Follow-up
Mark F. O'Brien, FRACS, E. Gregory Stafford, FRACS, Michael A. H. Gardner, FRACS, Peter G. Pohlner, FRACS, Peter J. Tesar, FRACS, Andrew D. Cochrane, FRACS, Terence K. Mau, FRACS, Kenneth L. Gall, BApplSc, and Susan E. Smith, BSc

S71 Accelerated Degeneration of Allografts in the First Two Years of Life
Abraham Charles Yankah, MD, PhD, Vladimir Alexi-Meskishvili, MD, Yuguo Weng, MD, Kai Schorn, Peter E. Lange, MD, PhD, and Roland Hetzer, MD, PhD

S78 Aortic Valve Replacement With Allograft/Autograft: Subcoronary Versus Intraluminal Cylinder or Root
Jean E. Rubay, MD, Daniel Raphael, Thierry Sluymans, MD, Jean-Louis J. Vanoverschelde, MD, Annie Robert, PhD, Jean-Claude Schoevaerdts, MD, Baudouin Marchandise, MD, and Robert A. Dion, MD

S83 Subcoronary Implantation or Aortic Root Replacement for Human Tissue Valves: Sufficient Data to Prefer Either Technique?
Tineke P. Willems, MD, Lex A. van Herwerden, MD, Ewout W. Steyerberg, MSc, Meindert A. Taams, MD, Veronica E. Kleyburg, Raymond B. Hokken, MD, Jos R. T. C. Roelandt, MD, and Egbert Bos, MD, PhD

S87 Root Replacement for All Allograft Aortic Valves: Preferred Technique or Too Radical?
Mark F. O'Brien, FRACS, R. Stewart Finney, MD, E. Gregory Stafford, FRACS, Michael A. H. Gardner, FRACS, Peter G. Pohlner, FRACS, Peter J. Tesar, FRACS, Andrew D. Cochrane, FRACS, Kenneth L. Gall, BApplSc, and Susan E. Smith, BSc

S92 Allograft Aortic Root Replacement: Standardization and Simplification of Technique
Mark F. O'Brien, FRACS

S95 Reoperative Aortic Valve Operation After Homograft Root Replacement: Surgical Options and Results
Thoralf M. Sundt III, MD, Nasser Rasmi, MD, Kit Wong, FRCS, Rosemary Radley-Smith, FRCP, Asghar Khaghani, FRCS, and Magdi H. Yacoub, FRCS

S101 Allograft Implantation in Pediatric Cardiac Surgery: Surgical Experience From 1982 to 1994
Joachim Weipert, MD, Hans Meisner, MD, Nikolaus Mendler, BS, John Christoph Haehnel, MD, MPH, Michael Homann, MD, Sung-Un Paek, MD, and Fritz Sebening, MD

S105 Large-Caliber Cryopreserved Arterial Allografts in Vascular Reconstructive Operations: Early Experience
Carlos-A. Mestres, MD, PhD, Jaime Mulet, MD, PhD, and José Luis Pomar, MD, PhD

S108 Structure–Function Correlations in Cryopreserved Allograft Cardiac Valves
Richard N. Mitchell, MD, PhD, Richard A. Jonas, MD, and Frederick J. Schoen, MD, PhD

S114 Effect of Warm Ischemia and Cryopreservation on Cell Viability of Human Allograft Valves
Kazuo Niwaya, MD, Hidehito Sakaguchi, MD, Kanji Kawachi, MD, and Soichiro Kitamura, MD

S118 Viability Studies of Human Valves Prepared for Use as Allografts
Lois C. Armiger, PhD

S122 Immunologic Reaction and Viability of Cryopreserved Homografts
Teddy Fischlein, MD, Albert Schütz, MD, Markus Haushofer, MD, Rainer Frey, BS, Antje Uhlig, Christian Detter, MD, and Bruno Reichart, MD

S127 Humoral Immune Response to Human Aortic Valve Homografts
John D. Smith, BSc, Hitoshi Ogino, MD, Diane Hunt, Ruthline M. Laylor, BSc, Marlene L. Rose, PhD, and Magdi H. Yacoub, FRCS

S131 Stimulation of Immune-Competent Cells in Vitro by Human Cardiac Valve–Derived Endothelial Cells
Franciska Hoekstra, MD, Christiaan Knoop, BSc, Zohara Aghai, BSc, Nicolet Jutte, PhD, Bas Mochtar, MD, PhD, Egbert Bos, MD, PhD, and Willem Weimar, MD, PhD

S135 The Aortic Valve After Heart Transplantation
Marialuisa Valente, MD, Giuseppe Faggian, MD, Margaret E. Billingham, MD, Enrico Talenti, MD, Fiorella Calabrese, MD, Roberto Casula, MD, Norman E. Shumway, MD, PhD, and Gaetano Thiene, MD

S141 Histologic and Genetic Assessment of Explanted Allograft Valves
José Neves, MD, Carolino Monteiro, PhD, Ricardo Santos, MSc, Ana Martins, MD, Sância Ramos, MD, Teresa Ramos, MD, Carol Calta, MSc, José Rueff, MD, and João Q. Melo, MD

S146 Short-Course Cyclosporin A Therapy for Definite Allograft Valve Survival Immunosuppression in Allograft Valve Operations
Abraham Charles Yankah, MD, PhD, Hans-Ulrich Wottge, PhD, and Wolfgang Müller-Ruchholtz, MD, PhD

S151 Unexplained Fever After Aortic Valve Replacement With Cryopreserved Allografts
Oz M. Shapira, MD, James D. Fonger, MD, Kolleen Reardon, PA-C, and Richard J. Shemin, MD

S156 Age-Dependent Changes in the Radial Stretch of Human Aortic Valve Leaflets Determined by Biaxial Testing
Grant W. Christie, PhD, and Brian G. Barratt-Boyes, MB, ChM

S160 Biaxial Mechanical Properties of Explanted Aortic Allograft Leaflets
Grant W. Christie, PhD, and Brian G. Barratt-Boyes, MB, ChM

S165 Cracks in Cryopreserved Aortic Allografts and Rapid Thawing
Claes Wassenaar, PhD, Ernst G. Wijsmuller, MD, Lex A. Van Herwerden, MD, Zohara Aghai, Corina L. J. Van Tricht, and Egbert Bos, MD, PhD

S168 Histologic Modification by Cryopreservation in Rat Aortic Allografts
Noboru Motomura, MD, Masami Imakita, MD, Chikao Yutani, MD, Shinichi Takamoto, MD, Yoshitsugu Kitoh, MD, Takayuki Tsuji, MD, Yasunaru Kawashima, MD, Yukio Wada, MD, and Takahiro Oka, MD

AUTOGRAFTS

S172 Pulmonary Autograft for Aortic Valve Replacement in Rheumatic Disease: A Caveat
Zohair Al-Halees, FRCS(C), Naresh Kumar, FRCS, Ricardo Gallo, MD, Begonia Gometza, MD, and Carlos M. G. Duran, MD, PhD

S177 Aortic Valve Replacement With Pulmonary Autograft in Children and Adults
Paul C. Cartier, MD, Jacques Métras, MD, Alain Cloutier, MD, Jean G. Dumesnil, MD, Gilles Raymond, MD, Daniel Doyle, MD, Denis Desaulniers, MD, Michel D. Lemieux, MD, and Salvatore Lentini, MD

S180 Extended Aortic Root Replacement With Pulmonary Autografts: Experience in 14 Cases
Willem J. Daenen, MD, Michel A. Vanhove, MD, and Marc H. Gewillig, MD

S185 Aortic Valve Replacement With Cryopreserved Pulmonary Allografts: Five Years' Follow-up
 Rudolf Mair, MD, Wolfgang Harringer, MD, Gerhard Wimmer-Greinecker, MD, Uwe Klima, MD, Christoph Gross, MD, Friedrich Peschl, MD, and Peter Brücke, MD

S189 The Autologous Tissue Cardiac Valve: A New Paradigm for Heart Valve Replacement
 Jean-Noël Fabiani, MD, Gilles D. Dreyfus, MD, Michel Marchand, MD, Jacques Jourdan, MD, Michel Aupard, MD, Christian Latrémouille, MD, Catherine Chardigny, MD, and Alain F. Carpentier, MD, PhD

S195 Mechanical Properties of Porcine Pulmonary Valve Leaflets: How Do They Differ From Aortic Leaflets?
 Grant W. Christie, PhD, and Brian G. Barratt-Boyes, MB, ChM

S200 Autologous Glutaraldehyde-Treated Pericardial Valved Conduit: An Experimental Study
 Mrinalini N. Kumar, MD, Ganga Prabakar, FRCS, Naresh Kumar, FRCS, Maie Shahid, MRCP, Anton E. Becker, MD, and Carlos M. G. Duran, MD, PhD

STENTED HETEROGRAFTS (PORCINE)

S205 Comparison of Low-Pressure Versus Standard-Pressure Fixation Carpentier-Edwards Bioprosthesis
 Javier Fernandez, MD, Chao Chen, PhD, Jiang Gu, MD, PhD, Otto B. Brdlik, DO, Glenn W. Laub, MD, Maria M. Murphy, MS, Mark S. Adkins, MD, William A. Anderson, MD, and Lynn B. McGrath, MD

S211 Biological Valves Beyond Fifteen Years: The Wessex Experience
 Timothy Joseph Edwards, MRCP, Steven A. Livesey, FRCS, Iain A. Simpson, FRCP, James L. Monro, FRCS, and Sir J. Keith Ross, FRCS

S216 Porcine Valve Durability: A Comparison Between Hancock Standard and Hancock II Bioprostheses
 Uberto Bortolotti, MD, Aldo Milano, MD, Eugenio Mossuto, MD, Enzo Mazzaro, MD, Gaetano Thiene, MD, and Dino Casarotto, MD

S221 Durability of the Hancock MO Bioprostheses Compared With Standard Aortic Valve Bioprostheses
 Kwok L. Yun, MD, D. Craig Miller, MD, Kathleen A. Moore, BS, R. Scott Mitchell, MD, Phillip E. Oyer, MD, PhD, Edward B. Stinson, MD, Robert C. Robbins, MD, Bruce A. Reitz, MD, and Norman E. Shumway, MD, PhD

S229 The Hancock II Bioprostheses at Ten Years
 Tirone E. David, MD, Susan Armstrong, MSc, and Zhao Sun, MA

S235 Carpentier-Edwards Supraannular Porcine Bioprostheses: Clinical Performance to Twelve Years

W. R. Eric Jamieson, MD, Lawrence H. Burr, MD, G. Frank O. Tyers, MD, Robert T. Miyagishima, MD, Michael T. Janusz, MD, Hilton Ling, MD, Guy J. Fradet, MD, Joan MacNab, Florence Chan, and Charmaine Henderson

S241 Structural Deterioration in Carpentier-Edwards Standard and Supraannular Porcine Bioprostheses

W. R. Eric Jamieson, MD, Lawrence H. Burr, MD, Robert T. Miyagishima, MD, Guy J. Fradet, MD, Michael T. Janusz, MD, G. Frank O. Tyers, MD, Joan MacNab, and Florence Chan

S248 Durability of the Carpentier-Edwards Porcine Bioprostheses: Role of Age and Valve Position

Jose M. Bernal, MD, Jose M. Rabasa, MD, Raul Lopez, MD, J. Francisco Nistal, MD, Roberto Muñiz, MD, and Jose M. Revuelta, MD

S253 The Medtronic Intact Xenograft: An Analysis of 342 Patients Over a Seven-Year Follow-up Period

Mark F. O'Brien, FRACS, E. Greg Stafford, FRACS, Michael A. H. Gardner, FRACS, Peter G. Pohlner, FRACS, Peter J. Tesar, FRACS, Laurie Kear, RN, and Susan E. Smith, BSc

S258 Medtronic Intact Porcine Bioprostheses: Clinical Performance to Seven Years

Michel D. Lemieux, MD, W. R. Eric Jamieson, MD, Roderick W. Landymore, MD, Jean G. Dumesnil, MD, Jacques Métras, MD, A. Ian Munro, MD, Gilles Raymond, MD, G. Frank O. Tyers, MD, Paul C. Cartier, MD, Idris M. Ali, MD, Denis Desaulniers, MD, Daniel Doyle, MD, Jean-Paul Després, MD, Louise Coté, RN, Cynthia Rice, and Charmaine Henderson

S264 Porcine Bioprostheses in the Elderly: Clinical Performance by Age Groups and Valve Positions

Lawrence H. Burr, MD, W. R. Eric Jamieson, MD, A. Ian Munro, MD, Robert T. Miyagishima, MD, and Eva Germann, MSc

S270 Bioprosthetic Valve Longevity in the Elderly: An 18-Year Longitudinal Study

Dennis F. Pupello, MD, Luis N. Bessone, MD, Stephen P. Hiro, MD, Enrique Lopez-Cuenca, MD, Milton S. Glatterer, Jr, MD, William W. Angell, MD, John C. Brock, MD, Mark J. Alkire, MD, Edward G. Izzo, MD, Guillermo Sanabria, MD, and George Ebra, EdD

S276 Influence of Coronary Artery Disease on Structural Deterioration of Porcine Bioprostheses

William W. Angell, MD, Dennis F. Pupello, MD, Luis N. Bessone, MD, Stephen P. Hiro, MD, Enrique Lopez-Cuenca, MD, Milton S. Glatterer, Jr, MD, and George Ebra, Edd

S282 Pregnancy and Bioprostheses: Influence on Structural Valve Deterioration

W. R. Eric Jamieson, MD, D. Craig Miller, MD, Cary W. Akins, MD, A. Ian Munro, MD, Donald D. Glower, MD, Kathleen A. Moore, and Charmaine Henderson

STENTED HETEROGRAFTS (PERICARDIUM)**S288 Long-Term Experience With the Ionescu-Shiley Pericardial Valve**

Roy G. Masters, MD, Virginia M. Walley, MD, Andrew L. Pipe, MD, and Wilbert J. Keon, MD

S292 Carpentier-Edwards Pericardial Bioprosthetic in Aortic Position: Long-Term Follow-up 1980 to 1994

Michel Pellerin, MD, Serban Mihaileanu, MD, Jean Paul Couëtil, MD, John Y. M. Relland, MD, Alain Deloche, MD, Jean-Noël Fabiani, MD, Amina Jindani, MD, and Alain F. Carpentier, MD, PhD

S297 The Carpentier-Edwards Pericardial Bioprosthetic: Clinical Experience With 600 Patients

L. Conrad Pelletier, MD, Michel Carrier, MD, Yves Leclerc, MD, and Ihor Dyrda, MD

S303 Durability of the Mitroflow Pericardial Valve at Ten Years

Jean-Philippe Mazzucotelli, MD, Patrick C. Bertrand, MD, and Daniel Y. Loisance, MD

S305 Mitroflow Pericardial Bioprosthetic: Clinical Performance to Ten Years

José Luis Pomar, MD, W. R. Eric Jamieson, MD, L. Conrad Pelletier, MD, Alfred N. Gerein, MD, Manuel Castellá, MD, and Richard T. Brownlee, MD

S311 Intermediate Clinical Results After Aortic Valve Replacement With the Carpentier-Edwards Pericardial Bioprosthetic

Marius C. Torka, MD, Barbara E. Salefsky, MD, and Robert W. Hacker, MD

S316 Surgical Correction of Aortic Disease Using Intraluminal, Crimped Bovine Pericardial Graft

Rodrigo de Castro Bernardes, MD, Fernando Antônio Roquette Reis Filho, MD, Roberto Luís Marino, MD, Marcos Antônio Marino, MD, Atena Cipriano de Castro, MD, Walter Rabelo, MD, and Raul Corrêa Rabelo, MD

HETEROGRAFTS (RESEARCH)**S322 Physicochemical Characterization of Natural and Bioprosthetic Heart Valve Calcific Deposits: Implications for Prevention**

Branko B. Tomazic, PhD, William D. Edwards, MD, and Frederick J. Schoen, MD, PhD

S328 Do Donor or Recipient Species Influence Calcification of Bioprosthetic Tissues?

Sophie M. Carpentier, PhD, Marie-Hélène Monier, DVM, Ming Shen, MD, and Alain F. Carpentier, MD, PhD

S332 Calcium Mitigation in Bioprosthetic Tissues by Iron Pretreatment: The Challenge of Iron Leaching

Sophie M. Carpentier, PhD, Alain F. Carpentier, MD, PhD, Lin Chen, MD, Ming Shen, MD, Lillian J. Quintero, MS, and Thomas H. Witzel, MS

S339 Prevention of Calcification of Heart Valve Bioprostheses: An Experimental Study in Rat

Jyotirmay Chanda, MD

S343 Time-Dependent Effect of Glutaraldehyde on the Tendency to Calcify of Both Autografts and Xenografts

Kangxiong Liao, MD, Robert W. M. Frater, FRCS, Angelo LaPietra, MD, Giovanni Ciuffo, MD, Carl F. Ilardi, MD, and Eli Seifter, PhD

S348 Relevance of Immunologic Reactions for Tissue Failure of Bioprosthetic Heart Valves

Manfred Dahm, MD, Matthias Husmann, MD, Eckhard Mayer, MD, Diethard Prüfer, MD, Elke Groh, BS, and Hellmut Oelert, MD

S353 Acellular Matrix: A Biomaterials Approach for Coronary Artery Bypass and Heart Valve Replacement

Gregory J. Wilson, MD, David W. Courtman, PhD, Petr Klement, DVM, PhD, J. Michael Lee, PhD, and Herman Yeger, PhD

S359 The Hybrid Xenograft/Autograft Bioprosthetic Heart Valve: In Vivo Evaluation of Tissue Extraction

Ivan Vesely, PhD, Ronald Noseworthy, BSc, and Gordon Pringle, PhD

S365 In Vitro Endothelialization of Photooxidatively Stabilized Xenogeneic Pericardium

Lars A. Bengtsson, MD, PhD, Rusty Phillips, PhD, and Anders N. Hægerstrand, MD, PhD

S369 Glutaraldehyde Fixation Alters the Internal Shear Properties of Porcine Aortic Heart Valve Tissue

Eric A. Talman, BSc, and Derek R. Boughner, MD, PhD

S374 Biaxial Strain Analysis of the Porcine Aortic Valve

David Lo, BESc, and Ivan Vesely, PhD

S379 Bioprosthetic Valve Tissue Viscoelasticity: Implications on Accelerated Pulse Duplicator Testing

Ivan Vesely, PhD, Derek R. Boughner, MD, PhD, and Jennifer Leeson-Dietrich, MSc

S384 Longitudinal and Radial Distensibility of the Porcine Aortic Root

Bjarne Hansen, PhD, Alan M. Menkis, MD, and Ivan Vesely, PhD

S391 Aortic Valve Cusp Microstructure: The Role of Elastin

Michael Scott, MSc, and Ivan Vesely, PhD

STENTLESS HETEROGRAFTS**S395 Perioperative Assessment of Aortic Homograft, Toronto Stentless Valve, and Stented Valve in the Aortic Position**

Xu Y. Jin, MD, Derek G. Gibson, FRCP, Magdi H. Yacoub, FRCS, and John R. Pepper, FRCS

S402 Early Experience With the Toronto Stentless Porcine Valve

Kit Wong, FRCS, Sujay Shad, FRCS, Paul D. Waterworth, FRCS, Asghar Khaghani, FRCS, John R. Pepper, FRCS, and Magdi H. Yacoub, FRCS

S406 Composite Stentless Xenograft for Aortic Valve Replacement: Clinical Evaluation of Function

Mark F. O'Brien, FRACS

S410 The Cryolife-O'Brien Composite Aortic Stentless Xenograft: Surgical Technique of Implantation

Mark F. O'Brien, FRACS

S414 The O'Brien-Angell Stentless Porcine Valve: Early Results With 150 Implants

Ulrik Hvass, MD, Didier Chatel, MD, Patrik Assayag, MD, Mohammad Ourooudji, MD, Yves Pansard, MD, Catherine Lenormand, MD, Thierry Laperche, MD, and Jean-Pol Depoix, MD

S418 Aortic Valve Replacement: Is the Stentless Xenograft an Alternative to the Homograft? Early Results of a Randomized Study

Christoph Gross, MD, Wolfgang Harringer, MD, Rudolf Mair, MD, Gerhard Wimmer-Greinecker, MD, Uwe Klima, MD, Kurt Sihorsch, MD, Robert Hofmann, MD, Hans Beran, PhD, and Peter Brücke, MD

S422 Aortic Valve Replacement With the Freestyle Stentless Xenograft

Stephen Westaby, FRCS, Naomali Amarasena, MRCP, Oliver Ormerod, FRCP, G. A. Chandima Amarasena, FRCS, and Ravi Pillai, FRCS

S428 From Aortic Cusp Extension to Valve**Replacement With Stentless Pericardium**

Carlos M. G. Duran, MD, PhD, Begonia Gometza, MD, Naresh Kumar, FRCS, Ricardo Gallo, MD, and Knut Bjornstad, MD

S433 New Evolution in Mitral Physiology and Surgery: Mitral Stentless Pericardial Valve

Radu F. P. Deac, MD, Dan Simionescu, PhD, and Dan Deac, MD

S439 Surgical Technique of Implanting the Stentless Porcine Mitral Valve

Mario Osvaldo P. Vrandecic, MD, Fernando A. Fantini, MD, Bayard F. Gontijo, MD, Ozanam C. Oliveira, MD, Idail C. J. Martins, MD, Marcelo H. C. Oliveira, MD, Sandra O. S. Avelar, MD, Erika Vrandecic, MS, and Ektor Vrandecic, MS

MECHANICAL AND BIOLOGICAL PROSTHESES (COMPARISON)**S443 Bioprosthetic and Mechanical Valves in the Elderly: Benefits and Risks**

Klaus Holper, MD, Michael Wottke, MD, Thomas Lewe, MD, Lucia Baumer, Hans Meisner, MD, Sung-Un Paek, MD, and Fritz Sebening, MD

S447 Mechanical Versus Biological Valve**Prosthesis: A Ten-Year Comparison**

Pia S. U. Mykén, MD, PhD, Kenneth Caidahl, MD, PhD, Pär Larsson, PhD, Sture Larsson, MD, PhD, Ingemar Wallentin, MD, PhD, and Håkan E. Berggren, MD, PhD

S453 Clinical Performance of Biological and Mechanical Prostheses

Guy J. Fradet, MD, W. R. Eric Jamieson, MD, James G. Abel, MD, Samuel V. Lichtenstein, MD, PhD, Robert T. Miyagishima, MD, Hilton Ling, MD, and G. Frank O. Tyers, MD

S459 Comparison of Porcine Bioprostheses and Mechanical Prostheses in Multiple Valve Replacement Operations

A. Ian Munro, MD, W. R. Eric Jamieson, MD, Lawrence H. Burr, MD, Hilton Ling, MD, Robert T. Miyagishima, MD, and Eva German, MSc

S464 Reoperation in Biological and Mechanical Valve Populations: Fate of the Reoperative Patient

G. Frank O. Tyers, MD, W. R. Eric Jamieson, MD, A. Ian Munro, MD, Eva German, MSc, Lawrence H. Burr, MD, Robert T. Miyagishima, MD, and Hilton Ling, MD

S470 Tricuspid Valve Replacement: Porcine Bioprostheses and Mechanical Prostheses

A. Ian Munro, MD, W. R. Eric Jamieson, MD, G. Frank O. Tyers, MD, and Eva German, MSc

S475 Perioperative Events in Patients With Failed Mechanical and Bioprosthetic Valves
 Lynn B. McGrath, MD, Javier Fernandez, MD,
 Glenn W. Laub, MD, William A. Anderson, MD,
 Bridget M. Bailey, BSN, and Chao Chen, PhD

APPENDIX

S479 Program of the VI International Symposium for Cardiac Bioprostheses

Number 3 September 1995

EDITORIALS

495 Advantage—FK 506: Reduced Chronic Rejection for Lung Transplant Recipients
 R. Morton Bolman III, MD

497 Molecular Biology 101
 Andrew S. Wechsler, MD

ORIGINAL ARTICLES: CARDIOVASCULAR

499 Initial Experience With the Cosgrove-Edwards Annuloplasty System
 Delos M. Cosgrove III, MD, Joseph M. Arcidi, MD, Leonardo Rodriguez, MD, William J. Stewart, MD, Kimerly Powell, PhD, and James D. Thomas, MD

505 Intermediate Results From the Period of the Congenital Heart Surgeons Transposition Study: 1985 to 1989
 Kevin Turley, MD, Edward D. Verrier, MD, and Congenital Heart Surgeons Society Database

511 Prevention of Residual Ventricular Septal Defects With Fibrin Sealant
 Ludwig K. von Segesser, MD, Margrit S. Fasnacht, MD, Paul R. Vogt, MD, Michele Genoni, MD, Urs Arbenz, MD, and Marko I. Turina, MD

517 Radial Artery and Inferior Epigastric Artery in Composite Grafts: Improved Midterm Angiographic Results
 Antonio M. Calafiore, MD, Gabriele Di Giammarco, MD, Giovanni Teodori, MD, Erminio D'Annunzio, MD, Giuseppe Vitolla, MD, Carlo Fino, MD, and Nicola Maddestra, MD

525 Heparin Bonding of Bypass Circuits Reduces Cytokine Release During Cardiopulmonary Bypass
 Bryan M. Steinberg, MD, Eugene A. Grossi, MD, Daniel S. Schwartz, MD, David E. McLoughlin, MD, Miguel Aguinaga, MD, Costas Bizekis, BA, Joshua Greenwald, BA, Adam Flisser, BA, Frank C. Spencer, MD, Aubrey C. Galloway, MD, and Stephen B. Colvin, MD

530 Repair of Complete Atrioventricular Canal Defects: Results With the Two-Patch Technique
 Carl L. Backer, MD, Constantine Mavroudis, MD, Ernerio T. Alboliras, MD, and Vincent R. Zales, MD

538 Surgical and Long-Term Antifungal Therapy for Fungal Prosthetic Valve Endocarditis
 Derek D. Muehrcke, MD, Bruce W. Lytle, MD, and Delos M. Cosgrove III, MD

544 Reduction in Prime Volume Attenuates the Hyperdynamic Response After Cardiopulmonary Bypass
 Piet G. M. Jansen, MD, Henk te Velthuis, MSc, Eisso R. Bulder, MD, Reggie Paulus, Marc R. M. Scheltinga, MD, PhD, León Eijisman, MD, PhD, and Charles R. H. Wildevuur, MD, PhD

Invited Commentary
 Stephen Westaby, FRCS

551 Human Mammary Artery Endothelial Sparing With Fibrous Jaw Clamping
 James D. Fonger, MD, Xi Ming Yang, MD, PhD, Richard A. Cohen, MD, Christian C. Haudenschild, MD, and Richard J. Shemin, MD

556 Successful Management of Junctional Tachycardia by Hypothermia After Cardiac Operations in Infants
 Jean-Pierre Pfammatter, MD, Thomas Paul, MD, Gerhard Ziemer, MD, and Hans C. Kallfelz, MD

561 Atrial Appendages and Venoatrial Connections in Hearts From Patients With Visceral Heterotaxy
 Hideki Uemura, MD, Siew Yen Ho, PhD, William A. Devine, BSc, Lucienne L. Kilpatrick, BSc, and Robert H. Anderson, MD

570 Intraoperative Blood Transfusion Is a Major Risk Factor for Coronary Artery Bypass Grafting in Women
 Joe R. Utley, MD, Edwin F. Wilde, PhD, Steven A. Leyland, MD, Marc S. Morgan, BS, and Howard D. Johnson, BS

Invited Commentary
 Karl E. Hammermeister, MD

576 Long-Term Results of Coronary Artery Bypass Grafting in Elderly Japanese Patients
Masaya Kitamura, MD, Masahiro Endo, MD, Fumitaka Yamaki, MD, Goro Ohtsuka, MD, Hiroshi Nishida, MD, and Hitoshi Koyanagi, MD

ORIGINAL ARTICLES: GENERAL THORACIC

580 Clinical Trial of Tacrolimus Versus Cyclosporine in Lung Transplantation
Robert J. Keenan, MD, Heroaki Konishi, MD, Akihiko Kawai, MD, Irvin L. Paradis, MD, David R. Nunley, MD, Aldo T. Iacono, MD, Robert L. Hardesty, MD, Robert J. Weyant, DMD, DrPH, and Bartley P. Griffith, MD

586 Accelerated Induction Therapy and Resection for Poor Prognosis Stage III Non-Small Cell Lung Cancer
Thomas W. Rice, MD, David J. Adelstein, MD, Anuradha Koka, MD, Melvin Tefft, MD, Thomas J. Kirby, MD, Marjorie A. Van Kirk, RN, Marie E. Taylor, MD, Thomas E. Olencki, DO, David Peereboom, MD, and G. Thomas Budd, MD

593 Pleural-Based Mesothelioma in Immune Competent Rats: A Model to Study Adenoviral Gene Transfer
John C. Kucharczuk, MD, Ashraf A. Elshami, MD, Hong Bing Zhang, W. Roy Smythe, MD, Harry C. Hwang, MD, James S. Tomlinson, MD, Kunjlata M. Amin, PhD, Leslie A. Litzky, MD, Steven M. Albelda, MD, and Larry R. Kaiser, MD
Invited Commentary
Scott M. Freeman, MD

599 Surgical Treatment of Lung Cancer in Patients With Human Immunodeficiency Virus
Richard J. Thurer, MD, Jeffrey P. Jacobs, MD, Fred W. Holland II, MD, and John R. Cintron, BS

603 Exercise Oximetry Versus Spirometry in the Assessment of Risk Prior to Lung Resection
Vivek Rao, MD, Thomas R. J. Todd, MD, Anne Kuus, PT, Karen J. Buth, MSc, and F. Griffith Pearson, MD

610 Application of a New Tactile Sensor to Thoracoscopic Surgery: Experimental and Clinical Study
Toshiya Ohtsuka, MD, Akira Furuse, MD, Tadasu Kohno, MD, Jun Nakajima, MD, Kuniyoshi Yagyu, MD, and Sadao Omata, PhD

615 Randomized Trial of Lobectomy Versus Limited Resection for T1 N0 Non-Small Cell Lung Cancer
Lung Cancer Study Group (Prepared by Robert J. Ginsberg, MD, and Lawrence V. Rubinstein, PhD)
Invited Commentary
Richard M. Peters, MD
Invited Commentary
John R. Benfield, MD

624 Isolated Single-Lung Perfusion: A Study of the Optimal Perfusate and Other Pharmacokinetic Factors
Benny Weksler, MD, Bruce Ng, MS, Jeffrey T. Lenert, MD, and Michael E. Burt, MD, PhD

630 Pressure Gradient Across the Pulmonary Artery Anastomosis During Lung Transplantation
George J. Despotis, MD, Menelaos Karanikolas, MD, Anastasios N. Triantafillou, MD, Charles G. Pond, MD, George V. Kirvassilis, MD, G. Alexander Patterson, MD, Joel D. Cooper, MD, and Demetrios G. Lappas, MD

635 Minimal Dose of Cyclosporin A for Tracheal Allografts
Ryoichi Nakanishi, MD, and Kosei Yasumoto, MD

640 Are Bilobectomies Acceptable Procedures?
Gilbert Massard, MD, Ahmad Dabbagh, MD, Pascal Dumont, MD, Romain Kessler, MD, Norbert Roeslin, MD, Jean-Marie Wihlm, MD, and Georges Morand, MD
Invited Commentary
Jean-Francois Regnard, MD

646 L-Arginine and Pentoxifylline Attenuate Endothelial Dysfunction After Lung Reperfusion Injury in the Rabbit
Louis Normandin, MD, Philippe Hervé, MD, Charles Brink, PhD, Alain R. Chapelier, MD, MSc, Philippe G. Darteville, MD, Guy-Michel Mazmanian, MD, and the Paris-Sud University Lung Transplant Group

651 Experimental Models of Tracheobronchial Stenoses: A Useful Tool for Evaluating Airway Stents
Charles Hugo Marquette, MD, Eric Mensier, MD, Marie-Christine Copin, MD, Angélique Desmidt, PhD, Lutz Freitag, MD, Christian Witt, MD, Laurent Petyt, MD, and Philippe Ramon, MD

MINI-SYMPOSIUM

657 Introduction
Ross M. Ungerleider, MD

658 Serial Echocardiography for Decision Making in Rapid Two-Stage Arterial Switch Operation
Krishna S. Iyer, MCh, Rajesh Sharma, MCh, Krishna Kumar, DM, Anil Bhan, MCh, Shyam S. Kothari, DM, Anita Saxena, DM, and Panangipalli Venugopal, MCh

665 Aortic Regurgitation in Coronary Artery Bypass Grafting: Implications for Cardioplegia Administration
Robbin Bura Moisa, MD, Steven M. Zeldis, MD, Steven A. Alper, PA-C, and William C. Scott, MD

669 Echocardiographic Results After Repair of Incompetent Bicuspid Aortic Valves
Reinhard Moidl, MD, Anton Moritz, MD, Paul Simon, MD, Natascha Kupilik, MD, Ernst Wolner, MD, and Werner Mohl, MD, PhD

673 Intraoperative Echocardiographic Study of Air Embolism During Cardiac Operations
Jens Tingleff, MD, Frederic S. Joyce, MD, and Gösta Pettersson, MD, PhD

678 Pulmonary Vein Doppler Echocardiography After Left Atrial Operation
J. René Herlong, MD, Jennifer S. Li, MD, A. Resai Bengur, MD, and Ross M. Ungerleider, MD

CASE REPORTS

681 Anomalous Origin of the Right Pulmonary Artery From the Aorta and CATCH 22 Syndrome
Mark C. Johnson, MD, Michael S. Watson, PhD, Arnold W. Strauss, MD, and Thomas L. Spray, MD
Invited Commentary
J. Deane Waldman, MD

683 Subarachnoid–Pleural Fistula After Resection of a Pancoast Tumor With Hyponatremia
Paul Boyev, MD, Mark J. Krasna, MD, Charles S. White, MD, and Joseph S. McLaughlin, MD

685 Successful Resection of Thoracic Aortic Aneurysms in Wiskott-Aldrich Syndrome
Jacques A. M. van Son, MD, PhD, Aengus S. O'Mearaigh, MD, William D. Edwards, MD, Paul R. Julsrud, MD, and Gordon K. Danielson, MD

687 Thoracic Aneurysm as a Cause of Chyluria: Resolution by Surgical Treatment
Pilar Garrido, MD, Ramon Arcas, MD, Jaime F. Bobadilla, MD, Jose Albertos, MD, Jose M. González Santos, MD, Jose L. Vallejo, MD, PhD, and Emilia Bastida, MD

689 Unusual Pitfall of Use of Retrograde Cardioplegia
Philippe M. Eucher, MD, Yves A. G. Louagie, MD, Michel Buche, MD, Jean-Paul Haxhe, MD, Patrick Chenu, MD, and Jean-Claude Schoevaerdts, MD

690 Tracheoesophagogastric Anastomosis Fistula: A Rare Complication of Esophagectomy
Charles-Henri Marty-Ané, MD, Michel Prudhomme, MD, Jean-Michel Fabre, MD, Jacques Domergue, MD, Michel Balmes, MD, and Henri Mary, MD

693 Coronary–Coronary Bypass Using the Radial Artery
Denis B. Tixier, MD, Christophe Acar, MD, and Alain F. Carpentier, MD, PhD

694 Lateral Thoracic Expansion for Jeune's Asphyxiating Dystrophy: A New Approach
J. Terrance Davis, MD, Robert L. Ruberg, MD, Douglas M. Leppink, MD, Karen S. McCoy, MD, and Christopher C. Wright, MD
Invited Commentary
Marc I. Rowe, MD

697 Truncus Arteriosus With Interrupted Aortic Arch: Successful Correction Using Autologous Flap
Seimei Nakae, MD, Masaaki Kawada, MD, Shingo Kasahara, MD, Zon Bo Lin, MD, Satoshi Hiraishi, MD, and Hirokuni Yoshimura, MD

699 Can Concordant Criss-Cross Heart Be Ameliorated by Hemodynamic Changes?
Masayoshi Nagatsu, MD, Yorikazu Harada, MD, Takamasa Takeuchi, MD, Hirohisa Goto, MD, and Yoshinori Ota, MD

701 Simplified Manouguian's Aortic Annular Enlargement for Aortic Valve Replacement
Hisanori Mayumi, MD, Yoshihiro Toshima, MD, Yoshito Kawachi, MD, Kouichi Tokunaga, MD, and Hisataka Yasui, MD

704 Importance of Complete System Removal of Infected Cardioverter-Defibrillators
David H. Mull, MD, Michael A. Wait, MD, Richard L. Page, MD, and Michael E. Jessen, MD

706 Origin of Both Coronary Arteries From the Pulmonary Artery and Aortic Coarctation
Giuseppe Santoro, MD, Duccio di Carlo, MD, Adriano Carotti, MD, Roberto Formigari, MD, Renata Boldrini, MD, Cesare Bosman, MD, and Luigi Ballerini, MD

708 Mitral Valve Replacement via Right Thoracotomy After Coronary Arterial Grafting
Akihiko Usui, MD, Mitsuo Kawamura, MD, Michiaki Hibi, MD, Katsuhiko Yoshida, MD, Fumihiko Murakami, MD, and Jinichi Iwase, MD

710 Endobronchial Fibrous Histiocytoma
Seena C. Aisner, MD, Robert J. Albin, MD, Philip A. Templeton, MD, and Mark J. Krasna, MD

712 Posttraumatic Coronary Artery Aneurysm
Stephen Westaby, FRCS, George Drossos, MD, and Nicholas Giannopoulos, MD

HOW TO DO IT

714 Early Closure of the Postpneumonectomy Bronchopleural Fistula by Pedicled Diaphragmatic Flaps
Tommaso Claudio Mineo, MD, and Vincenzo Ambrogi, MD

716 Extracardiac Fontan Operation With Adjustable Communication
Michael D. Black, MD, Jacques A. M. van Son, MD, PhD, and Gary S. Haas, MD

719 Inferoposterior Ventricular Septal Rupture: Repair With Maintenance of Ventricular Geometry
Vivek Pathi, FRCS, Ravi Kumar, FRCS, and Surendra Naik, FRCS

CURRENT REVIEWS

721 Potential Gene Therapy Strategies in the Treatment of Cardiovascular Disease
Robert T. Rowland, MD, Joseph C. Cleveland, Jr, MD, Xianzhong Meng, MD, Alden H. Harken, MD, and James M. Brown, MD

729 Use of Pleura, Azygos Vein, Pericardium, and Muscle Flaps in Tracheobronchial Surgery
Timothy M. Anderson, MD, and Joseph I. Miller, Jr, MD

KEY REFERENCES

734 Reconstructive Surgery of the Aortic Root
Nicholas T. Kouchoukos, MD

UPDATES

736 Clastogenic Factor in Ischemia-Reperfusion Injury During Open-Heart Surgery: Protective Effect of Allopurinol
Ingrid Emerit, MD, PhD, and Jean-Noël Fabiani, MD

738 The Changing Mortality of Myocardial Revascularization: Coronary Artery Bypass and Angioplasty
Andrew C. Fiore, MD, and Keith S. Naunheim, MD

REPORT

740 Special Report of the Joint Committee on Government Relations
Jack M. Matloff, MD

CORRESPONDENCE

744 Platelet-Activating Factor Antagonist and Cardiopulmonary Bypass
Nathalie Nathan, MD, and Yves Denizot, DrSc
Reply
Kenton J. Zehr, MD, and Duke E. Cameron, MD

745 Thyroid Function After Cardiopulmonary Bypass in Neonates
Ian M. Mitchell, FRCS
Reply
Richard D. Mainwaring, MD, John J. Lamberti, MD, and Jerald C. Nelson, MD

747 Effects of Cardiopulmonary Perfusion Temperature: A Randomized, Controlled Trial
Inderpal Birdi, FRCS, Idriss A. Regragui, FRCS, Mohammad Bashar Izzat, FRCS, Alan J. Bryan, FRCS, and Gianni D. Angelini, FRCS
Reply
Ronald M. Becker, MD, and Andrew A. Rich, MD

Reply
Martin Tönz, MD, Tomislav Mihaljevic, MD, Ludwig K. von Segesser, MD, and Marko I. Turina, MD

748 Biopsy-Induced Mitral Regurgitation After Orthotopic Cardiac Transplantation
Michele di Summa, MD, Guglielmo M. Actis Dato, MD, Stefano Pansini, MD, Enrico Donegani, MD, and Sebastiano Marra, MD
Reply
Solomon Victor, FRCP, and Vijaya M. Nayak, MS

750 Video-Assisted Thoracic Surgery
James W. Mackenzie, MD Roger R. Ecker, MD
Reply
Martin F. McKneally, MD, PhD

751 Valve Replacement and Pneumonectomy
Wilford B. Neptune, MD

REVIEW OF RECENT BOOKS

752 Cardiopulmonary Bypass in Neonates, Infants and Young Children, edited by Richard A. Jonas, MD, and Martin J. Elliott, MD, FRCS
Jonah Odim, MD, PhD

ANNOUNCEMENTS

A-32 Forthcoming Articles
A-33, 34 Information for Authors
A-35 Guidelines for the Submission of Electronic Manuscripts
A-36, 37 Events of Interest
543 The Society of Thoracic Surgeons: Thirty-second Annual Meeting
656 Notice From the Southern Thoracic Surgical Association
672, 737 Notice From the American Board of Thoracic Surgery
753 Program of the Forty-second Annual Meeting of the Southern Thoracic Surgical Association
A-39-41 Classified Advertisements
A-46 Index to Advertisers

SUPPLEMENT ON MYOCARDIAL PROTECTION

757 International Symposium on Myocardial Protection From Surgical Ischemic-Reperfusion Injury
759 Introduction
 Jakob Vinten-Johansen, PhD, and John W. Hammon, Jr, MD

I. PATHOPHYSIOLOGY OF ISCHEMIC-REPERFUSION INJURY

760 Free Radicals, Calcium Homeostasis, Heat Shock Proteins, and Myocardial Stunning
 Michael L. Hess, MD, and Rakesh C. Kukreja, PhD

767 Ischemia Affects Cardiac Proteins in Healthy Animals Less Severely Than in Human Patients
 Udo Sprengel, MD, Brigitte Münkel, Francis Robicsek, MD, PhD, Thomas N. Masters, PhD, and Jutta Schaper, MD, PhD

773 Role of Selectins in Myocardial Ischemia-Reperfusion Injury
 Allan M. Lefer, PhD

778 Coronary Artery Endothelial Function After Myocardial Ischemia and Reperfusion
 John F. Seccombe, MD, and Hartzell V. Schaff, MD

789 The Role of Bradykinin and Nitric Oxide in the Cardioprotective Action of ACE Inhibitors
 J. Craig Hartman, PhD

II. SURGICAL MYOCARDIAL PROTECTION

793 Milestones in the Development of Cardioplegia
 A. Robert Cordell, MD

797 Substrate Enhancement of Cardioplegic Solution: Experimental Studies and Clinical Evaluation
 Eliot R. Rosenkranz, MD

801 Influence of Steroids on Complement and Cytokine Generation After Cardiopulmonary Bypass
 Richard M. Engelmann, MD, John A. Rousou, MD, Joseph E. Flack III, MD, David W. Deaton, MD, Reni Kalfin, MD, and Dipak K. Das, PhD

805 Update on Current Techniques of Myocardial Protection
 Gerald D. Buckberg, MD

815 Complex Valve Operations: Antegrade Versus Retrograde Cardioplegia?
 W. Randolph Chitwood, Jr, MD, Christopher L. Wixon, MD, Terry O. Norton, MD, and Robert M. Lust, PhD

819 The Physiologic Basis of Warm Cardioplegia
 Michael C. Mauney, MD, and Irving L. Kron, MD

824 Myocardial Protection for Coronary Bypass Grafting: The Toronto Hospital Perspective
 John S. Ikonomidis, MD, PhD, Vivek Rao, MD, Richard D. Weisel, MD, Nobuhiko Hayashida, MD, and Toshizumi Shirai, MD, PhD

833 Protection of Evolving Myocardial Infarction and Failed PTCA
 Friedhelm Beyersdorf, MD

839 Myocardial Protection in the Immature Heart
 John W. Hammon, Jr, MD

III. NEW DIRECTIONS IN SURGICAL MYOCARDIAL PROTECTION

843 Protective Effects of Adenosine in the Reversibly Injured Heart
 Robert D. Lasley, PhD, and Robert M. Mentzer, Jr, MD

847 Attenuation of Myocardial Ischemia-Reperfusion Injury With Nitric Oxide Replacement Therapy
Allan M. Lefer, PhD

852 Reduction in Surgical Ischemic-Reperfusion Injury With Adenosine and Nitric Oxide Therapy
Jakob Vinten-Johansen, PhD, Zhi-Qing Zhao, MD, PhD, and Hiroki Sato, MD, PhD

858 Is There an Alternative to Potassium Arrest?
Neri M. Cohen, MD, PhD, Ralph J. Damiano, Jr, MD, and Andrew S. Wechsler, MD

IV: ABSTRACTS

864 Abstracts

Number 4 October 1995

EDITORIALS

873 Surgical Management of Chronic Obstructive Pulmonary Disease
Jean Deslauriers, MD

875 Coronary Operations in Octogenarians: Can We Select the Patients?
William S. Weintraub, MD

SPECIAL REPORT

877 A Comprehensive Curriculum for Thoracic Surgery: Survey of Opinions From Program Directors and Residents
Gordon F. Murray, MD, David R. Jones, MD, and Frank T. Stritter, PhD

ORIGINAL ARTICLES: GENERAL THORACIC

888 Decortication Is a Valuable Option for Late Empyema After Collapse Therapy
Gilbert Massard, MD, Clotilde Rougé, MD, Jean-Marie Wihlm, MD, Soltan Ameur, MD, Ahmad Dabbagh, MD, Romain Kessler, MD, Norbert Roeslin, MD, and Georges Morand, MD

896 Superficial Esophageal Carcinoma
Joseph F. Sabik, MD, Thomas W. Rice, MD, John R. Goldblum, MD, Anuradha Koka, MD, Thomas J. Kirby, MD, Sharon V. Medendorp, MPH, and David J. Adelstein, MD

903 Lung Transplantation for Congenital Pulmonary Vein Stenosis
Eric N. Mendeloff, MD, Thomas L. Spray, MD, Charles B. Huddleston, MD, Nancy D. Bridges, MD, Charles B. Canter, MD, and George B. Mallory, Jr, MD

908 Thymoma: A Multivariate Analysis of Factors Predicting Survival
David Blumberg, MD, Jeffrey L. Port, MD, Benny Weksler, MD, Ruby Delgado, MD, Juan Rosai, MD, Manjit S. Bains, MD, Robert J. Ginsberg, MD, Nael Martini, MD, Patricia M. McCormack, MD, Valerie Rusch, MD, and Michael E. Burt, MD, PhD

915 Uncut Collis-Nissen Gastropasty: Early Functional Results
Manuel Pera, MD, Claude Deschamps, MD, Raymond Taillefer, MD, and André Duranceau, MD

922 Esophageal Resection for Recurrent Achalasia
Daniel L. Miller, MD, Mark S. Allen, MD, Victor F. Trastek, MD, Claude Deschamps, MD, and Peter C. Pairolero, MD

927 Anesthetic Techniques for Pediatric Thoracoscopy
Eugene D. McGahren, MD, John A. Kern, MD, and Bradley M. Rodgers, MD

931 Video-Assisted Thoracic Surgery: Primary Therapy for Spontaneous Pneumothorax?
F. Hammond Cole, Jr, MD, Francis H. Cole, MD, Alim Khademkar, MD, J. Matthew Maxwell, MD, James W. Pate, MD, and William A. Walker, MD

936 Thoracoscopic Laser Pneumoplasty in the Treatment of Diffuse Bullous Emphysema
Akio Wakabayashi, MD

943 Videothoracoscopic Excision of Thoracic Neurogenic Tumors
Marc Riquet, MD, Jérôme Mouroux, MD, François Pons, MD, Denis Debrosse, MD, Antoine Dujon, MD, Marcel Dahan, MD, and René Jancovici, MD

947 Effect of Ischemic Injury on Subsequent Rat Lung Allograft Rejection
Takeshi Shiraishi, MD, Takatoshi Mizuta, MD, Steven R. DeMeester, MD, Jon H. Ritter, MD, Paul E. Swanson, MD, Mark R. Wick, MD, Joel D. Cooper, MD, and G. Alexander Patterson, MD

952 Morphologic Alterations and Cytokinetic Studies of Tracheal Autograft Epithelium in Rabbits
Yoshiaki Inayama, MD, Izumi Tomiyama, MD, Makoto Akaike, MD, Masahiro Kase, MD, Haruhiko Nakayama, MD, Takao Morohoshi, MD, Akihiko Matsumoto, MD, and Masayoshi Kanisawa, MD

958 Lung Preservation Threshold in a Compromised Septic Lung Injury Model
Shigeyuki Sasaki, MD, PhD, James D. McCully, PhD, John D. Palombo, ScD, R. Armour Forse, MD, PhD, and Joseph LoCicero III, MD

Invited Commentary
Richard J. Novick, MD

964 Treatment of Multiple Primary Squamous Cell Carcinomas of the Lung
Shinya Murakami, MD, Yoh Watanabe, MD, Hiroshi Saitoh, MD, Ryohei Yamashita, MD, Junzo Shimizu, MD, Makoto Oda, MD, and Yoshinobu Hayashi, MD

ORIGINAL ARTICLES:
CARDIOVASCULAR

970 Systemic Obstruction in Univentricular Hearts: Surgical Options for Neonates
Alain Serraf, MD, Stefano Conte, MD, François Lacour-Gayet, MD, Jacqueline Bruniiaux, MD, Miguel Sousa-Uva, MD, Régine Roussin, MD, and Claude Planché, MD

978 Right-to-Left Veno-Arterial Shunting for Right-Sided Circulatory Failure
James P. Slater, MD, Daniel J. Goldstein, MD, Robert C. Ashton, Jr, MD, Howard R. Levin, MD, Henry M. Spotnitz, MD, and Mehmet C. Oz, MD

986 Mechanical Dysfunction in the Border Zone of an Ovine Model of Left Ventricular Aneurysm
Michael J. Moulton, MD, Stephen W. Downing, MD, Lawrence L. Creswell, MD, Douglas S. Fishman, David M. Amsterdam, Barna A. Szabó, PhD, James L. Cox, MD, and Michael K. Pasque, MD

999 Carpenter-Edwards Standard Porcine Bioprostheses: Clinical Performance to Seventeen Years
W. R. Eric Jamieson, MD, A. Ian Munro, MD, Robert T. Miyagishima, MD, Peter Allen, MD, Lawrence H. Burr, MD, and G. Frank O. Tyers, MD

1008 Heparin Causes Platelet Dysfunction and Induces Fibrinolysis Before Cardiopulmonary Bypass
Shukri F. Khuri, MD, C. Robert Valeri, MD, Joseph Loscalzo, MD, PhD, Mark J. Weinstein, PhD, Vladimir Birjiniuk, MD, Nancy A. Healey, BS, Hollace MacGregor, BS, Mheir Doursounian, BS, and Michael A. Zolkewitz, BS

1015 Perioperative Donor Bone Marrow Infusion Augments Chimerism in Heart and Lung Transplant Recipients
Si M. Pham, MD, Robert J. Keenan, MD, Abdul S. Rao, MD, DPhil, Paulo A. Fontes, MD, Robert L. Kormos, MD, Kareem Abu-Elmagd, MD, Adriana Zeevi, PhD, Akihiko Kawai, MD, Brack G. Hattler, MD, PhD, Robert L. Hardesty, MD, Anthony J. Demetris, MD, Massimo M. Trucco, MD, Gayle L. Rosner, PhD, John J. Fung, MD, PhD, Thomas E. Starzl, MD, PhD, and Bartley P. Griffith, MD

1021 Microvascular Reactivity After Crystalloid, Cold Blood, and Warm Blood Cardioplegic Arrest
Charles O. Murphy, MD, Pan-Chih, MD, John Parker Gott, MD, and Robert A. Guyton, MD

1028 Free Latissimus Dorsi Flap for Chest Wall Repair After Complete Resection of Infected Sternum
Andrej Banic, MD, PhD, Hans-Beat Ris, MD, Dominique Erni, MD, and Heinz Striffler, MD

Invited Commentary
Maurice J. Jurkiewicz, MD

1033 CABG in Octogenarians: Early and Late Events and Actuarial Survival in Comparison With a Matched Population
Michael E. Cane, MD, Chao Chen, PhD, Bridget M. Bailey, BSN, Javier Fernandez, MD, Glenn W. Laub, MD, William A. Anderson, MD, and Lynn B. McGrath, MD

1038 Determinants of Operative Mortality in Octogenarians Undergoing Coronary Bypass
Donald B. Williams, MD, Roger G. Carrillo, MD, Ernest A. Traad, MD, Charles H. Wyatt, MD, Robert Grahowski, BS, S. Howard Wittels, MD, and George Ebra, EdD

1044 Results of Mitral Valve Reconstruction in Children With Rheumatic Heart Disease
Arkalgud Sampath Kumar, MCh, Pantula Narasinga Rao, MS, and Anita Saxena, DM

1048 Evaluation of the Hemodynamic Performance of Small CarboMedics Aortic Prostheses Using Dobutamine-Stress Doppler Echocardiography
Mohammad Bashar Izzat, FRCS, Inderpal Birdi, FRCS, Peter Wilde, FRCR, Alan J. Bryan, FRCS, and Gianni D. Angelini, FRCS

1053 The CarboMedics Valve: Midterm Follow-up With Analysis of Risk Factors
Arnt E. Fiane, MD, Kjell Saatvedt, MD, Jan L. Svennevig, MD, PhD, Odd Geiran, MD, PhD, Kenneth Nordstrand, MD, PhD, and Tor Frøysaker, MD, PhD

1059 Left Ventricular End-Systolic Volume Index in Patients With Ischemic Cardiomyopathy Predicts Postoperative Ventricular Function
Atsushi Yamaguchi, MD, Takashi Ino, MD, Hideo Adachi, MD, Akihiro Mizuhara, MD, Seiichiro Murata, MD, and Hitoshi Kamio, MD

1063 Coronary Artery Reoperation Through the Left Thoracotomy With Hypothermic Circulatory Arrest
Hisayoshi Suma, MD, Ikutaro Kigawa, MD, Taiko Horii, MD, Jun-ichi Tanaka, MD, Sachito Fukuda, MD, and Yasuhiko Wanibuchi, MD

1067 Hemopump Treatment in Patients With Postcardiotomy Heart Failure
Urban Lönn, MD, Bengt Peterzén, MD, Hans Granfeldt, MD, Ankica Babic, PhD, and Henrik Casimir-Ahn, MD, PhD

1072 Upper Extremity Vascular Access for Continuous Arteriovenous Hemofiltration and Dialysis After Cardiac Operations
Jerome B. Riebman, MD, Glenn W. Laub, MD, Albert H. Olivencia-Yurvati, DO, and Lynn B. McGrath, MD

1076 Effects of High-Dose Aprotinin on Renal Function in Aortocoronary Bypass Grafting
Peter R. Feindt, MD, Sandra Walcher, MD, Ingo Volkmer, MD, Hans E. Keller, MD, Uwe Straub, MD, Hanno Huwer, MD, Ulrich T. Seyfert, MD, Thomas Petzold, MD, and Emmeran Gams, MD

1081 Right Ventricular Dysfunction in Low Output Syndrome After Cardiac Operations: Assessment by Transesophageal Echocardiography
Víctor G. Dávila-Román, MD, Alan D. Waggoner, RDMS, William E. Hopkins, MD, and Benico Barzilai, MD

1087 Normothermic Versus Mild Hypothermic Retrograde Blood Cardioplegia: A Prospective, Randomized Study
Päivi Kaukoranta, MD, Martti Lepojärvi, MD, Juha Nissinen, MD, Pekka Raatikainen, MD, PhD, and Keijo J. Peuhkurinen, MD, PhD
Invited Commentary
Tomas A. Salerno, MD

SPECIAL PRESENTATION

1094 Changing Surgical CPI Valuation Relationships: A Method of Determination (1970–1995)
James A. Haugen, MBA, and George E. Miller, Jr, MD

CASE REPORTS

1097 Successful Repair of a Ruptured Postinfarct Pseudoaneurysm of the Left Ventricle
Hitoshi Yaku, MD, Gary Fermanis, FRACS, David A. Horton, FRACS, Dean Guy, FRACP, and Robert Lvoff, FRACP

1098 Valvuloplasty in Traumatic Aortic Insufficiency Due to Subtotal Tear of the Intima
Albert Miralles, MD, Teresa Farinola, MD, Jose Quiroga, MD, Chuks Obi, MD, Jairo Hernandez, MD, Jorge Granados, MD, Carles Fontanillas, MD, Emili Saura, MD, Miguel Benito, MD, Josep Maria Calbet, MD, and Eduard Castells, MD

1100 Cholelithoptysis and Empyema Formation After Laparoscopic Cholecystectomy
Sion P. Barnard, FRCS, Ian Pallister, FRCS, David J. Hendrick, MRCP, Noel Walter, MRCPATH, and Graham N. Morritt, FRCS

1102 Endovascular Stent-Grafting After Arch Aneurysm Repair Using the "Elephant Trunk"
James I. Fann, MD, Michael D. Dake, MD, Charles P. Semb, MD, Robert P. Liddell, BA, Thomas A. Pfeffer, MD, and D. Craig Miller, MD
Invited Commentary
Hans-Georg Borst, MD

1105 Radical Excisional Therapy and Total Cardiac Transplantation for Recurrent Atrial Myxoma
Daniel J. Goldstein, MD, Mehmet C. Oz, MD, and Robert E. Michler, MD

1108 Modified Surgical Palliation for a Rare Type of L-Transposition With Aortic Atresia
J. Nilas Young, MD, Eric J. Kuncir, MD, William M. DeCampli, MD, J. Gregg Helton, MD, and Edward N. Ahearn, MD

1109 Management of Intraaortic Balloon Entrapment
Yasunori Fukushima, MD, Makoto Yoshioka, MD, Naoteru Hirayama, MD, Takafumi Kashiwagi, MD, Toshio Onitsuka, MD, and Yasunori Koga, MD

1111 Paradoxical Embolism in the Presence of Right-to-Left Shunt Due to Tricuspid Occlusion
Calin Vicol, MD, Vladimir Danov, MD, and Eberhard Struck, MD

1112 Defibrillator Patch Electrode Constriction: An Underrecognized Entity
William W. Barrington, MD, Ubeydullah Deligonul, MD, Arthur R. Easley, MD, and John R. Windle, MD
Invited Commentary
T. Bruce Ferguson, Jr, MD

1116 Umbilical Artery Flow Velocity During Maternal Cardiopulmonary Bypass
Israel Goldstein, MD, Peter Jakobi, MD, Eliahu Guterman, MD, and Simcha Milo, MD

1118 Embolization of Biologic Glue During Repair of Aortic Dissection
Thierry Carrel, MD, Marc Maurer, MD, Tengis Tkebuchava, MD, Urs Niederhäuser, MD, Jakob Schneider, MD, and Marko I. Turina, MD

1120 Simultaneous Repair of Multiple Traumatic Aortic Tears
Robert A. Lancey, MD, George P. Davliakos, MD, and Thomas J. Vander Salm, MD

1121 Post-Stenting Enlarging False Aneurysm of a Saphenous Vein Graft
Takahiro Katsumata, MD, Masahiro Endo, MD, Kenji Ihashi, MD, Seiji Fujino, MD, Hiroshi Nishida, MD, and Hitoshi Koyanagi, MD

1123 Dacron Coronary Graft Obstruction After Composite Graft Replacement of Aortic Root
Satoshi Sekine, MD, Tadaaki Abe, MD, Keiji Seki, MD, Yoshiki Shibata, MD, Itsuro Yamagishi, MD, and Makoto Kamada, MD

Invited Commentary
Josef G. Vincent, MD

1126 Bronchioloalveolar Carcinoma and Congenital Cystic Adenomatoid Malformation
Michel E. Ribet, MD, Marie-Christine Copin, MD, Jacques G. Soots, MD, and Bernard H. Gosselin, MD

HOW TO DO IT

1129 Direct Coronary Sinus Cannulation During Cardioplegic Infusion
Joginder N. Bhayana, MD, and Tomas A. Salerno, MD

1130 Reducing Bleeding After Replacement of the Aortic Root
Matthew S. Bayfield, MB, BS, and Irving L. Kron, MD

1132 New Technique for Sternal Osteosynthesis
Daniel Roux, MD, Gérard Fournial, MD, Yves Glock, MD, and Rémy Nottin, MD

OUR SURGICAL HERITAGE

1133 Evolution of Pulmonary Resection Techniques and Review of the Bronchus-First Method
Jerome T. Grismer, MD, and Raymond C. Read, MD

CURRENT REVIEW

1138 Postoperative Management of Cerebral Air Embolism: Gas Physiology for Surgeons
Eduardo A. Tovar, MD, Carlos Del Campo, MD, Alan Borsari, MD, Robin P. Webb, CCP, Jeffrey R. Dell, MD, and Paul B. Weinstein, MD

COLLECTIVE REVIEW

1143 Cardiac Surgery and Cold-Reactive Proteins
Surendra K. Agarwal, MCh, Probal K. Ghosh, FRCSEd, and Debashish Gupta, MD

UPDATES

1151 Surgery of the Descending Thoracic Aorta: Spinal Cord Protection With the Gott Shunt
Alain Verdant, MD

1153 Paced Skeletal Muscle for Dynamic Cardiomyoplasty
George J. Magovern, Sr, MD

CORRESPONDENCE

1155 Topical Aprotinin in Cardiac Operations
Sertaç Çiçek, MD

1155 Amiodarone for Ventricular Tachycardia After Coronary Artery Bypass Grafting
Yasushi Terada, MD, Toshio Mitsui, MD, Yukihiko Yoshimura, MD, Motoo Osaka, MD, and Wahei Mihara, MD

1156 Hemodynamic Effects of Atrio-Biventricular Pacing
Serge Broka, MD, Philippe M. Eucher, MD, Anne Ducart, MD, Edith Collard, MD, Vincent Delire, MD, Alain Mayné, MD, Philippe Randour, MD, and Kurt Joucken, MD

1156 Who's Afraid of Kety-Schmidt?
David J. Cook, MD, Robert E. Anderson, BS, John D. Michenfelder, MD, William C. Oliver, Jr, MD, Thomas A. Orszulak, MD, Richard C. Daly, MD, and Rex D. Bryce, BA

1157 Thoracoscopic Pulmonary Resection
Ralph J. Lewis, MD, Robert J. Caccavale, MD, Glenn E. Sisler, MD, Jean-Philippe Bocage, MD, and James W. Mackenzie, MD

Reply

William S. Walker, FRCS, and Stewart R. Craig, FRCS

Reply

Gian Carlo Roviaro, MD, Federico Varoli, MD, Carlo Rebuffat, MD, and Davide Sonnino, MD

1159 Therapeutic Implications for Heparin-Induced Thrombocytopenia and Thrombosis
Afksendiyo Kalangos, MD, PhD, and John Yves Marie Relland, MD

Reply

Albert Altès, MD, Rodrigo Martino, MD, Mercè Gari, Maria Lluisa Càmara, MD, Rosa Garín, Juan-Ignacio Casas, MD, and Jordi Fontcuberta, PhD

1161 Normothermia, Hypothermia, and Postoperative Bleeding
Oscar Gil, MD, Juan C. Catalá, MD, PhD, Angel L. Fernández, MD, PhD, José A. Montero, MD, PhD, Daniel Luna, MD, and Orlando Tovar, MD

Reply

Martin Tönz, MD, Tomislav Mihaljevic, MD, Ludwig K. von Segesser, MD, and Marko I. Turina, MD

1161 Hemostatic Modification in Aortic Root Replacement With Composite Graft
Sudarshan K. Khanna, MCh, and Mohammad Akhter, MCh

Reply

Jack G. Copeland III, MD

REVIEW OF RECENT BOOKS

1052 Thoracic Surgery, edited by F. Griffith Pearson
J. Kent Trinkle, MD

ANNOUNCEMENTS

A-27, 28 **Information for Authors**
A-29 **Guidelines for the Submission of Electronic Manuscripts**
A-30, 31 **Events of Interest**
A-32 **Forthcoming Articles**
895 **The Society of Thoracic Surgeons: Thirty-second Annual Meeting**
926 **Notice From the Southern Thoracic Surgical Association**
963, 1131 **Notice From the American Board of Thoracic Surgery**
A-33-35 **Classified Advertisements**
A-38 **Index to Advertisers**

Number 5 November 1995

EDITORIALS

1163 Tetralogy of Fallot {S,D,I}: A Recently Discovered Malformation and its Surgical Management
Richard Van Praagh, MD

1166 Use and Misuse of the Ejection Fraction
Douglas M. Behrendt, MD

THORACIC SURGERY DIRECTORS ASSOCIATION AWARD

1169 Disparate Effects of Nitric Oxide on Lung Ischemia-Reperfusion Injury
Michael J. Eppinger, MD, Peter A. Ward, MD, Michael L. Jones, Steven F. Bolling, MD, and G. Michael Deeb, MD

ORIGINAL ARTICLES: CARDIOVASCULAR

1177 The "Physio-Ring": An Advanced Concept in Mitral Valve Annuloplasty
Alain F. Carpentier, MD, PhD, Arrigo Lessana, MD, John Y. M. Relland, MD, Emre Belli, MD, Serban Mihaileanu, MD, Alain J. Berrebi, MD, Evelyn Palsky, MD, and Didier F. Loulmet, MD

1187 Effect of L-Arginine Cardioplegia on Recovery of Neonatal Lamb Hearts After 2 Hours of Cold Ischemia
Takeshi Hiramatsu, MD, Joseph M. Forbess, MD, Takuya Miura, MD, and John E. Mayer, Jr, MD

1193 Predicting Survival After Coronary Revascularization for Ischemic Cardiomyopathy
Scott E. Langenburg, MD, Scott A. Buchanan, MD, Lorne H. Blackbourne, MD, Randall P. Scheri, BS, Kimberly N. Sinclair, MS, Juan Martinez, MD, William D. Spotnitz, MD, Curtis G. Tribble, MD, and Irving L. Kron, MD

1198 Comparing Two Strategies of Cardiopulmonary Bypass Cooling on Jugular Venous Oxygen Saturation in Neonates and Infants
Frank H. Kern, MD, Ross M. Ungerleider, MD, Scott R. Schulman, MD, Jon N. Meliones, MD, Randall M. Schell, MD, Beatrice Baldwin, CRNA, Paul R. Hickey, MD, Mark F. Newman, MD, Richard A. Jonas, MD, and William J. Greeley, MD

1203 Antegrade and Retrograde Continuous Warm Blood Cardioplegia: A ^{31}P Magnetic Resonance Study
Edward F. Hoffenberg, MSc, Jian Ye, MD, Jiankang Sun, MSc, Hooman R. Ghomeshi, BSc, Tomás A. Salerno, MD, and Roxanne Deslauriers, PhD

1210 Perfadex Is Superior to Euro-Collins Solution Regarding 24-Hour Preservation of Vascular Function
Richard Ingemannsson, MD, Giorgio Massa, MD, PhD, Raj K. Pandita, MD, Trygve Sjöberg, PhD, and Stig Steen, MD, PhD

1215 Interaction of Thyroid Hormone and Heparin in Postischemic Myocardial Recovery
Michael G. Katz, MD, PhD, Amram J. Cohen, MD, Herzl Schwalb, PhD, Joseph Segal, PhD, Gideon Merin, MD, and Arie Schachner, MD

1219 Treatment of Dilated Cardiomyopathy With Dynamic Cardiomyoplasty: The Heidelberg Experience
Rüdiger Lange, MD, Falk-Udo Sack, MD, Bernhard Voss, MD, Raffaele De Simone, MD, Matthias Thielmann, Angélique Nair, MD, Johannes Brachmann, MD, Rainer Haussmann, MD, Franz Fleischer, MD, and Siegfried Hagl, MD

1226 Massive Calcification of the Left Atrium: Surgical Implications
José L. Vallejo, MD, PhD, Carlos Merino, MD, José M. González-Santos, MD, Emilia Bastida, MD, José Albertos, MD, Mariano J. Riesgo, MD, and Fermin González de Diego, MD

1230 Hemodynamics of Different Degrees of Right Heart Bypass: Experimental Assessment
Loïc Macé, MD, Patrice Dervanian, MD, Michel Weiss, MD, Jean-Pierre Daniel, MD, Jean Losay, MD, and Jean-Yves Neveux, MD

1238 Anti-CD11b Monoclonal Antibody Improves Myocardial Function After Six Hours of Hypothermic Storage
Joseph M. Forbess, MD, Takeshi Hiramatsu, MD, Fumikazu Nomura, MD, Takuya Miura, MD, G. King Farrington, PhD, Karen Sokolowski, Mark Bree, BS, and John E. Mayer, Jr, MD

1245 Unidirectional Valve Patch for Repair of Cardiac Septal Defects With Pulmonary Hypertension
Qiwen Zhou, MD, Yongqiang Lai, MD, Hua Wei, MD, Ruiming Song, MD, Yafeng Wu, MD, and Hong Zhang, MD

1250 Regression of Hypertrophic Cardiomyopathy After Modified Konno Procedure
Jose A. Quinones, MD, Serafin Y. DeLeon, MD, Dolores A. Vitullo, MD, Joanne Hofstra, MS, David J. Cziperle, MD, Kalavathi P. Shenoy, MD, Timothy J. Bell, MD, and Elizabeth A. Fisher, MD

1255 Comparative Study of Biological Glues: Cryoprecipitate Glue, Two-Component Fibrin Sealant, and "French" Glue
Samir Basu, MD, Corrado P. Marini, MD, F. Gregory Bauman, PhD, Djamshid Shirazian, PhD, Peter Damiani, BS, Robert Robertazzi, MS, Israel J. Jacobowitz, MD, Anthony Acinapura, MD, and Joseph N. Cunningham, Jr, MD

1263 Permanent Pacemaker for Rejection Episodes After Heart Transplantation: A Poor Prognostic Sign
Carlos Blanche, MD, Lawrence S. C. Czer, MD, Michael C. Fishbein, MD, Johanna J. M. Takkenberg, MD, and Alfredo Trento, MD

1267 Acute Changes in Left Ventricular Geometry After Volume Reduction Operation
Jack Rychik, MD, Marshall L. Jacobs, MD, and William I. Norwood, Jr, MD, PhD

1275 L-Arginine Reduces Endothelial Inflammation and Myocardial Stunning During Ischemia/Reperfusion
Daniel T. Engelman, MD, Masazumi Watanabe, MD, Nilanjana Maulik, PhD, Gerald A. Cordis, MS, Richard M. Engelman, MD, John A. Rousou, MD, Joseph E. Flack III, MD, David W. Deaton, MD, and Dipak K. Das, PhD

1282 Three-Dimensional Echocardiography Can Simulate Intraoperative Visualization of Congenitally Malformed Hearts
Michael Vogel, MD, Siew Yen Ho, PhD, Christopher Lincoln, FRCS, Magdi H. Yacoub, FRCS, and Robert H. Anderson, MD

1289 Superoxide Radical and Xanthine Oxidoreductase Activity in the Human Heart During Cardiac Operations
Simon W. MacGowan, FRCSI, Mark C. Regan, FRCSI, Carmel Malone, MB, Orla Sharkey, MB, Leonie Young, BSc, Thomas F. Gorey, FRCSI, and Alfred E. Wood, FRCSI

1294 Retrograde Cerebral Perfusion: Anatomic Study of the Distribution of Blood to the Brain
Jean-Louis de Brux, MD, Jean-Baptiste Subayi, MD, Jean-Dominique Pegis, MD, and Jean Pillet, MD

1299 Bypass Graft for Complex Forms of Isthmic Aortic Coarctation in Adults
Jean-Michel Grinda, MD, Loïc Macé, MD, Patrice Dervanian, MD, Thierry A. Folliguet, MD, and Jean-Yves Neveux, MD

1303 Reoperation for Recurrent Aortic Coarctation
Anthony C. Ralph-Edwards, MD, William G. Williams, MD, John C. Coles, MD, Ivan M. Rebeyka, MD, George A. Trusler, MD, and Robert M. Freedman, MD

1308 Can Improved Microvascular Perfusion Be Achieved by Using Both Antegrade and Retrograde Cardioplegia?
Richard N. Gates, MD, Hillel Laks, MD, Davis C. Drinkwater, Jr, MD, Abbas Ardehali, MD, Alon S. Aharon, MD, Ana Maria Zaragoza, MD, and Paul A. Chang, BS

1312 Ball Valve (Smeloff-Cutter) Aortic Valve Replacement Without Anticoagulation
Begonia Gometza, MD, and Carlos M. G. Duran, MD, PhD

1317 Disparity in Blood Activation by Two Different Heparin-Coated Cardiopulmonary Bypass Systems
Oddvar Moen, MD, Erik Fosse, MD, PhD, Vibeke Brockmeier, MD, Conny Andersson, CCP, Tom Eirik Mollnes, MD, PhD, Kolbjørn Høgåsen, MD, and Per Venge, MD, PhD

1324 Cardiac Anatomy in Patients Undergoing the Fontan Procedure
Amanda Barlow, MB, Ashwinikumar Pawade, FRCS, James L. Wilkinson, FRCP, and Robert H. Anderson, MD

ORIGINAL ARTICLES: GENERAL THORACIC

1331 Congenital Diaphragmatic Hernia: Experience in a Single Institution From 1978 Through 1994
Krishna Mallik, BS, Bradley M. Rodgers, MD, and Eugene D. McGahren, MD

1337 Thoracoscopic Staging of Esophageal Cancer: A Prospective, Multiinstitutional Trial
Mark J. Krasna, MD, Carolyn E. Reed, MD, Michael T. Jaklitsch, MD, Deborah Cushing, MPH, David J. Sugarbaker, MD, and The Cancer and Leukemia Group B Thoracic Surgeons

1341 Prevalence and Outcome of Bronchiolitis Obliterans Syndrome After Lung Transplantation
Sudhir Sundaresan, MD, Elbert P. Trulock, MD, Thallachallour Mohanakumar, PhD, Joel D. Cooper, MD, G. Alexander Patterson, MD, and The Washington University Lung Transplant Group

1348 Lung Tumor Growth Correlates With Glucose Metabolism Measured by Fluoride-18 Fluorodeoxyglucose Positron Emission Tomography
Francis G. Duhaylongsod, MD, Val J. Lowe, MD, Edward F. Patz, Jr, MD, Anna L. Vaughn, RN, R. Edward Coleman, MD, and Walter G. Wolfe, MD

1353 Resection of Sternal Tumors: Extent, Reconstruction, and Survival
Omer Soysal, MD, Garrett L. Walsh, MD, Jonathan C. Nesbitt, MD, Marion J. McMurtrey, MD, Jack A. Roth, MD, and Joe B. Putnam, Jr, MD

1360 CD18-Independent Mechanism of Neutrophil Emigration in the Rabbit Lung After Ischemia-Reperfusion
Donald D. Thomas, MD, Sam R. Sharar, MD, Robert K. Winn, PhD, Emil Y. Chi, PhD, Edward D. Verrier, MD, Margaret D. Allen, MD, and Michael J. Bishop, MD

1367 Membranous Tracheal Rupture After Endotracheal Intubation
Charles-Henri Marty-Ané, MD, Eric Picard, MD, Olivier Jonquet, MD, and Henri Mary, MD

1372 Soft-Tissue Reconstruction in Thoracic Surgery
Khaled M. Al-Kattan, FRCS, Nicholas M. Breach, FRCS, David K. Kaplan, FRCS, and Peter Goldstraw, FRCS

1376 Free Radical-Mediated Vascular Injury in Lungs Preserved at Moderate Hypothermia
Masayuki Haniuda, MD, Carolyn M. Dresler, MD, Takatoshi Mizuta, MD, Joel D. Cooper, MD, and G. Alexander Patterson, MD

1382 Investigation for Mediastinal Disease in Patients With Apparently Operable Lung Cancer
The Canadian Lung Oncology Group

1390 Pulmonary Artery Perfusion of Doxorubicin With Blood Flow Occlusion: Pharmacokinetics and Treatment in a Metastatic Sarcoma Model
Hong-Yue Wang, MD, Bruce Ng, MS, David Blumberg, MD, Jeffrey L. Port, MD, Steven N. Hochwald, MD, and Michael E. Burt, MD, PhD

CASE REPORTS

1395 Combined Valve Replacement and Coronary Bypass Grafting in Osteogenesis Imperfecta
G. Hossein Almassi, MD, George R. Hughes, MD, and James Bartlett, DO

1397 Acute Aortic Dissection in a Patient With Osteogenesis Imperfecta
Yukinori Moriyama, MD, Takuji Nishida, MD, Hitoshi Toyohira, MD, Hideaki Saigenji, MD, Shinji Shimokawa, MD, Akira Taira, MD, and Kazumi Kuriwaki, MD

1399 Surgical Repair of Complete Atrioventricular Septal Canal Defects With Absent Posterior Leaflet
Eugene K. W. Sim, FRCS, Michael D. Black, MD, Jeffrey Smallhorn, MD, and William G. Williams, MD

1400 Aortic Root Replacement and Extraanatomic Bypass for Interrupted Aortic Arch in an Adult
Ben J. L. Burton, MA, Panny Kallis, FRCS, Chris Bishop, FRCS, R. Howard Swanton, FRCP, and Charles W. Pattison, FRCS

1403 Surgical Closed Atrial Septotomy Under Transesophageal Guidance
Jacques A. M. van Son, MD, PhD, John C. Vander Woude, MD, Wen Cheng, MD, Norman H. Silverman, MD, Michael K. Cahalan, MD, and Frank L. Hanley, MD

1404 Retrograde Pulmonary Embolectomy by Flushing of the Pulmonary Veins
Lindsay C. H. John, FRCS, Wael I. I. Awad, FRCS, and David R. Anderson, FRCS

1406 Heart Transplantation for Chagas' Cardiomyopathy
Carlos Blanche, MD, Ivan Aleksic, MD, Johanna J. M. Takkenberg, MD, Lawrence S. C. Czer, MD, Michael C. Fishbein, MD, and Alfredo Trento, MD

1409 Cardiac Allograft Failure: Successful Use of Biventricular Assist Device
James Jagers, MD, David A. Fullerton, MD, David N. Campbell, MD, Bruce Andrea, MD, Stephen D. Jones, MD, James M. Brown, MD, Eugene E. Wolfel, MD, Joann Lindenfeld, MD, Frederick L. Grover, MD, and Michael R. Bristow, MD, PhD

1411 Vascular Ring Causing Symptomatic Tracheal Compression in Adulthood
Elie Fadel, MD, Alain R. Chapelier, MD, Jacques Cerrina, MD, Paolo Macchiarini, MD, and Philippe G. Darteville, MD

1413 Late Development of Esophageal Compression From a Vascular Ring
Alfred C. Nicolosi, MD, and Robert A. Cambria, MD

1415 Leiomyosarcoma of the Superior Vena Cava and Azygos Vein
James M. Levett, MD, William G. Meffert, MD, Wilson W. Strong, MD, A. Curtis Hass, MD, Ruth A. Macke, MD, Gordon G. Berg, MD, Mary Anne Nelson, MD, and Chirantan Ghosh, MD

1417 Silicone Thorax: A Complication of Tube Thoracostomy in the Presence of Mammary Implants
David C. Rice, MD, Thirugnanam Agasthian, MD, Ricky P. Clay, MD, and Claude Deschamps, MD

1419 Pedicled Pericardial Patch Repair of a Carinal Bronchogenic Cyst
Richard N. Pierson III, MD, and Douglas J. Mathisen, MD

1421 Synchronous Reconstruction of the Trachea and Innominate Artery in Thyroid Carcinoma
Hiroaki Nomori, MD, Hirotoshi Horio, MD, and Sadahiro Nara, MD

1423 Aneurysm of the Left Pulmonary Artery: Surgical Allograft Repair
Filip Casselman, MD, Herve Deferm, MD, Patrick Peeters, MD, and Hugo Vanermen, MD

1425 Cardiac Transplantation for Hypertrophic Cardiomyopathy Associated With Sengers' Syndrome
Robert C. Robbins, MD, Daniel Bernstein, MD, Gerald J. Berry, MD, Krisa P. VanMeurs, MD, Lorry R. Frankel, MD, and Bruce A. Reitz, MD

HOW TO DO IT

1428 Simplified Method of Reinforced Sternal Closure
William F. Chlostka, MD, and John A. Elefteriades, MD

1430 New Surgical Technique for Repair of Ventricular Septal Perforation
Katsuhiko Matsuda, MD, PhD, Teiji Oda, MD, PhD, Hiromu Terai, MD, Michiya Hanyu, MD, and Toshihiko Ban, MD, PhD

1432 Biatrial Inferior Transseptal Approach to the Mitral Valve
Jean Paul A. Couetil, MD, Ahmad Ramsheyi, MD, Michael J. Tolan, FRCS(I), Didier F. Loulmet, MD, Jean François Verrier, MD, and Alain F. Carpentier, MD, PhD

1434 Modified Pulmonary Autograft Aortic Root Replacement: The Sinus Obliteration Technique
Michael D. Black, MD, Jacques A. M. van Son, MD, PhD, and Frank L. Hanley, MD

OUR SURGICAL HERITAGE

1437 The First Lung Transplantation
Martin L. Dalton, MD

CURRENT REVIEWS

1439 Osteogenesis Imperfecta and Cardiovascular Diseases
Rose S. Wong, MD, Fabrizio M. Follis, MD, Bruce K. Shively, MD, and Jorge A. Wernly, MD

1444 Traumatic Rupture of Diaphragm
Rajesh Shah, FRCS, Sabaratnam Sabanathan, FRCS, Alan J. Mearns, FRCS, and Amit K. Choudhury, FRCS

KEY REFERENCES

1450 Thoracic Outlet Syndromes
Harold C. Urschel, Jr, MD

UPDATES

1452 Comparative Morbidity of Mitral Valve Repair Versus Replacement for Mitral Regurgitation With and Without Coronary Artery Disease
Lawrence H. Cohn, MD

1454 Chest Wall Resection for Ewing's Sarcoma of the Rib: An Unnecessary Procedure
Bhaskar N. Rao, MD, Neyssa Marina, MD, William H. Meyer, MD, Elizabeth I. Thompson, MD, F. Ann Hayes, MD, James W. Pate, MD, and Carol A. Greenwald, MD

REPORT

1456 Guidelines for Granting Hospital Privileges in Video-Assisted Thoracic Surgery

CORRESPONDENCE

1457 Spontaneous Pneumomediastinum After Sneezing
Stéphane Dechambre, MD, Jean Pol d'Odémont, MD, Jean Philippe Cornelis, MD, and Jacques Fastrez, MD

Reply
Anthony C. Ralph-Edwards, MD, and F. Griffith Pearson, MD

1457 Technique for Finding the Left Anterior Descending Coronary Artery
Vipin Zamvar, FRCS, and R. A. M. Lawson, FRCS

Reply
Mehmet C. Oz, MD, and Eric A. Rose, MD

1458 Novel Surgical Approach to Neurogenic Dumbbell Tumors
Hiroaki Osada, MD

Reply
Eric Vallières, MD, and J. Max Findlay, MD

1459 Ductus Arteriosus Ligation Without a Tube Thoracostomy
Christopher M. R. Satur, FRCS, Saeed S. Ashraf, FRCS, and Duncan R. Walker, FRCS

Reply
Serafin Y. DeLeon, MD, Joanne Hofstra, MS, and Jose A. Quinones, MD

1460 Insulin Infusions and Coronary Artery Bypass Grafting
William I. Brenner, MD

Reply
W. Kenneth Ward, MD

1461 Evaluation of the Hemodynamic Performance of Stentless Porcine Aortic Valves

Mohammad Bashar Izzat, FRCS, Massimo Caputo, MD, and Gianni D. Angelini, FRCS

1461 Anterolateral Thoracotomy for Mitral Valve Replacement
A. Sampath Kumar, MCh

1461 Anabolic Hormones in Cardiomyoplasty
Valeri Chekanov, MD, PhD

1462 Transverse Approach to the Femoral Artery
Harinder Singh Bedi, MCh, Vijay Kumar Sharma, MCh, and Naresh Trehan, MD

REVIEW OF RECENT BOOKS

1254 Current Therapy for Acute Coronary Ischemia, edited by Harold L. Lazar
Robert M. Mentzer, Jr, MD

ANNOUNCEMENTS

A-31, 32 **Information for Authors**
A-33 **Guidelines for the Submission of Electronic Manuscripts**
A-34, 35 **Events of Interest**
A-36 **Forthcoming Articles**
1330 **The Society of Thoracic Surgeons: Thirty-second Annual Meeting**
1359 **Notice From the Southern Thoracic Surgical Association**
1375, 1451 **Notice From the American Board of Thoracic Surgery**
A-37-39 **Classified Advertisements**
A-46 **Index to Advertisers**

SUPPLEMENT: PREPARING YOUR PRACTICE FOR CHANGE

1463 Preparing Your Practice for Change: Thoracic Surgery Into the Next Decade

1464 Introduction
Robert L. Replogle, MD

1465 Program

1467 Welcome
Benson R. Wilcox, MD

1468 Introduction to the Meeting
Robert L. Replogle, MD

1469 Keynote: The Future Is Here
Robert W. Jamplis, MD

1473 Solo or Partnership
Harold C. Urschel, Jr, MD

1476 Hospital-Based Group: Ideal Practice for the Future?
Jack M. Matloff, MD, and Timothy A. Denton, MD

1481 University Surgical Group
Robert B. Karp, MD

1486 Integrated Cardiac Care
Grady L. Hallman, MD, and Charles Edmonds, MS

1490 Discussion: The Ideal Practice for the Future?

1494 Mainstream Vision for Health Reform
The Honorable David Durenberger

1498 Are Cost Considerations Contradictory to Quality?
David B. Skinner, MD

1500 Managed Care Contracting/Capitation
Thomas M. Reardon, Esq

1509 You Are in Charge of Cost
Floyd D. Loop, MD

1513 Quality
Richard P. Anderson, MD

1514 Quality Initiatives and the Power of the Database: What They Are and How They Run
Frederick L. Grover, MD, Karl E. Hammermeister, MD, and A. Laurie W. Shroyer, PhD

1522 Optimizing Cardiothoracic Surgery Information for a Managed Care Environment
Timothy A. Denton, MD, and Jack M. Matloff, MD

1526 Quality Initiatives and the Power of the Database: Where We Stand
Nicholas T. Kouchoukos, MD

1530 Think Before You Prep: Defining the Terms of Change in American Healthcare
Sandra J. Tanenbaum, PhD

1534 Medical Device Industry Efforts to Increase Healthcare Value
Glen D. Nelson, MD

1537 Industry's Efforts: Devices and Pharmaceuticals
Charles A. Sanders, MD

1541 A Physician Workforce for the 21st Century
Richard A. Cooper, MD

1547 International Perspectives: USA/Hawaii
J. Judson McNamara, MD

1550 Overview: The Next Step
Transcribed Remarks of Victor R. Fuchs, PhD, as Edited by Jack M. Matloff, MD

Number 6 **December 1995**

EDITORIALS

1557 The "Cured" Lung Cancer Patient: Is Follow-up by the Surgeon Worthwhile?
Clement A. Hiebert, MD

1559 Solid Tumors in Cardiac Allograft Recipients
Israel Penn, MD

1561 Cellular Linings of Ventricular Assist Devices

ORIGINAL ARTICLES: GENERAL THORACIC

1563 Is Follow-up of Lung Cancer Patients After Resection Medically Indicated and Cost-Effective?

1573 Staging Non-Small Cell Lung Cancer by Whole-Body Positron Emission Tomographic Imaging
Peter E. Valk, MB, BS, Thomas R. Pounds, MD, Donald M. Hopkins, MD, Michael K. Haseman, MD, Glenn A. Hofer, MD, Hani B. Greiss, MD, Richard W. Myers, MD, and Calvin L. Lutrin, MB, ChB
Invited Commentary
Robert T. Heelan, MD

1583 c-myc Antisense Oligodeoxyribonucleotides Inhibit Proliferation of Non-Small Cell Lung Cancer
Lary A. Robinson, MD, Larry J. Smith, PhD, Michele P. Fontaine, BS, H. David Kay, PhD, Charles P. Mountjoy, MS, and Samuel J. Pirruccello, MD

1592 Improvement of Tracheal Autograft Survival With Transplantation Into the Greater Omentum
Jian Li, MD, Peizhang Xu, MD, Hongyi Chen, MD, Zequan Yang, MD, and Qilian Zhang, MD

1597 Maximal Preservation Time of Tracheal Allografts
Paolo Macchiarini, MD, Guy-Michel Mazmanian, MD, Vincent Thomas de Montpréville, MD, Elisabeth M. Dulmet, MD, Alain R. Chapelier, MD, and Philippe G. Darteville, MD, for the Paris-Sud University Lung Transplantation Group

1605 Influence of Sample Number and Biopsy Site on the Histologic Diagnosis of Diffuse Lung Disease
Andrew Flint, MD, Fernando J. Martinez, MD, Mary L. Young, MS, Richard I. Whyte, MD, Galen B. Toews, MD, and Joseph P. Lynch III, MD
Invited Commentary
Mark R. Wick, MD

1609 Successful Treatment of Solitary Extracranial Metastases From Non-Small Cell Lung Cancer
James D. Luketich, MD, Nael Martini, MD, Robert J. Ginsberg, MD, David Rigberg, MD, and Michael E. Burt, MD, PhD

1612 Clinical Surveillance Testing After Lung Cancer Operations
Keith S. Naunheim, MD, Katherine S. Virgo, PhD, Margaret A. Coplin, MA, and Frank E. Johnson, MD

1617 Prostaglandin E₁ or Prostacyclin in Euro-Collins Solution Fails to Improve Lung Preservation
Sinikka Kukkonen, MD, Lasse J. Heikkilä, MD, Kalervo Verkkala, MD, PhD, Severi P. Mattila, MD, PhD, and Hannu Toivonen, MD, PhD

ORIGINAL ARTICLES: CARDIOVASCULAR

1623 Solid Tumors After Heart Transplantation: Lethality of Lung Cancer
Si M. Pham, MD, Robert L. Kormos, MD, Rodney J. Landreneau, MD, Akihiko Kawai, MD, Ivan Gonzalez-Cancel, MD, Robert L. Hardesty, MD, Brack G. Hattler, MD, PhD, and Bartley P. Griffith, MD

1627 Characterization of Hematopoietic Cells Arising on the Textured Surface of Left Ventricular Assist Devices
Shahin Rafii, MD, Mehmet C. Oz, MD, J. Alex Seldomridge, BS, Barbara Ferris, BA, Adam S. Asch, MD, Ralph L. Nachman, MD, Fred Shapiro, MD, Eric A. Rose, MD, and Howard R. Levin, MD

1633 Time-Related Hemodynamic Changes After Aortic Replacement With the Freestyle Stentless Xenograft
Stephen Westaby, FRCS, Naomali Amarasena, MRCP, Vanessa Long, RGN, Anthony Prothero, BA, G. A. Chandima Amarasena, FRCS, Adrian P. Banning, MRCP, Ravi Pillai, FRCS, and Oliver Ormerod, MRCP

1640 Influence of Ejection Fraction on Hospital Mortality, Morbidity, and Costs for CABG Patients
Gregory L. Kay, MD, Guo-Wen Sun, PhD, Atsushi Aoki, MD, and Curtis A. Prejean, Jr, MD

1652 Exploring Better Methods to Preserve the Chordae Tendineae During Mitral Valve Replacement
Masashi Komeda, MD, PhD, Abe DeAnda, Jr, MD, Julie R. Glasson, MD, Ann F. Bolger, MD, Yasuko Tomizawa, MD, PhD, George T. Daughters II, MS, Terrence L. Tye, MS, Neil B. Ingels, Jr, PhD, and D. Craig Miller, MD

1659 Growth of Oversized Grafts in Neonatal Heart Transplantation
Norihide Fukushima, MD, Steven R. Gundry, MD, Anees J. Razzouk, MD, and Leonard L. Bailey, MD

1665 Influence of Hemodynamics on the Performances of Intravascular Gas Exchangers
Tomislav Mihaljevic, MD, Ludwig K. von Segesser, MD, Martin Tönz, MD, Boris Leskosek, BA, and Marko I. Turina, MD

1671 Cardiopulmonary Bypass Temperature, Hematocrit, and Cerebral Oxygen Delivery in Humans
David J. Cook, MD, William C. Oliver, Jr, MD, Thomas A. Orszulak, MD, Richard C. Daly, MD, and Rex D. Bryce, MD
Invited Commentary
Julie A. Swain, MD

1678 New Technique Measures Decreased Transmural Myocardial Pressure in Cardiomyoplasty
Frederick Y. Chen, SM, Lishan Aklog, MD, Brian J. deGuzman, MD, Rita G. Laurence, BS, Gregory S. Couper, MD, Robert F. Appleyard, PhD, Lawrence H. Cohn, MD, and Thomas A. McMahon, PhD

1683 Suppressor Cells and Intrathymic Inoculation of Donor Alloantigens in Cardiac Transplantation
Zhenya Shen, MD, Muhammad Mohiuddin, MD, and Verdi J. DiSesa, MD

1686 Atrioventricular Valve Insufficiency and Atrial Geometry After Orthotopic Heart Transplantation
Raffaele De Simone, MD, Rüdiger Lange, MD, Falk-Udo Sack, MD, Hormoz Mehmanesh, MD, and Siegfried Hagl, MD

1694 Preoperative Autologous Blood Donations in Pediatric Cardiac Surgery
Munetaka Masuda, MD, Yosito Kawachi, MD, Shouiti Inaba, MD, Kouji Matsuzaki, MD, Fumio Fukumura, MD, Shigeki Morita, MD, Ryuji Tominaga, MD, and Hisataka Yasui, MD

1698 Different Effects of an Adenosine A₁ Analogue and Ischemic Preconditioning in Isolated Rabbit Hearts
Robert D. Lasley, PhD, Mark A. Noble, Patrick J. Konyn, and Robert M. Mentzer, Jr, MD

1704 Retrograde Abdominal Visceral Perfusion: Is It Beneficial?
Parachuri V. Rao, FRCS(CTh), Russell F. Stahl, MD, Babs R. Soller, PhD, Kevin G. Shortt, MD, Charles Hsi, MD, Kevin J. Cotter, CCP, Janice M. Belle Isle, BS, and John M. Moran, MD

1709 Atrial Fibrillation After Coronary Artery Bypass Grafting Is Associated With Sympathetic Activation
Jonathan M. Kalman, MBBS, PhD, Muhammad Munawar, MD, Laurence G. Howes, MBBS, PhD, William J. Louis, MD, Brian F. Buxton, FRACS, Geoffrey Gutteridge, MBBS, and Andrew M. Tonkin, MD

1716 Cerebral Dysfunction After Cardiac Operations in Elderly Patients
Eric J. Heyer, MD, PhD, Ellise Delphin, MD, David C. Adams, MD, Eric A. Rose, MD, Craig R. Smith, MD, George J. Todd, MD, Mark Ginsburg, MD, Rita Haggerty, PhD, and Donald J. McMahon, MS

1723 Successful 24-Hour Rabbit Heart Preservation by Hypothermic Continuous Coronary Microperfusion With Oxygenated University of Wisconsin Solution
Kenji Okada, MD, Chojiro Yamashita, MD, Masayoshi Okada, MD, and Morihito Okada, MD

1729 Myocardial Effects of Experimental Acute Brain Death: Evaluation by Hemodynamic and Biological Studies
Georges Pinelli, MD, Paul-Michel Mertes, MD, PhD, Jean-Pierre Carteaux, MD, Yves Jaboin, Jean-Marie Escanye, PhD, François Brunotte, MD, and Jean-Pierre Villemot, MD

1735 Blood Cardioplegia Increases Plasma Iron Overload and Thiol Levels During Cardiopulmonary Bypass
John R. Pepper, FRCS, Sharon Mumby, BSc, and John M. C. Gutteridge, PhD, DSc
Invited Commentary
Robert E. Helm, MD

1741 Effects of Dopamine on Liver Blood Flow in Children With Congenital Heart Disease
Ian M. Mitchell, FRCS, James C. S. Pollock, FRCS, and Morgan P. G. Jamieson, FRCS

1745 Role of Leukocyte Depletion During Cardiopulmonary Bypass and Cardioplegic Arrest
Harold L. Lazar, MD, Xi Zhang, MD, PhD, Takafumi Hamasaki, MD, Patrick Treanor, CCP, Samuel Rivers, BS, Sheilah Bernard, MD, and Richard J. Shemin, MD

1749 Adjunctive Coronary Endarterectomy: Improved Safety in Modern Cardiac Surgery
Ali R. Djalilian, MD, and Sara J. Shumway, MD

1755 High and Low Heparin Dose With Heparin-Coated Cardiopulmonary Bypass: Activation of Complement and Granulocytes
Eivind Ørvrum, MD, Tom Eirik Mollnes, MD, PhD, Erik Fosse, MD, PhD, Einfrid Åm Holen, MD, Geir Tangen, MD, Mari-Anne L. Ringdal, CCP, and Vibeke Videm, MD, PhD

1762 Pulmonary Atresia With Intact Ventricular Septum: Long-Term Results of "One and a Half Ventricular Repair"
Kagami Miyaji, MD, Munehiro Shimada, MD, Akihiko Sekiguchi, MD, Akira Ishizawa, MD, Takayoshi Isoda, MD, and Minoru Tsunemoto, MD

1765 Inhaled Nitric Oxide for Children With Congenital Heart Disease and Pulmonary Hypertension
Ronald D. Curran, MD, Constantine Mavroudis, MD, Carl L. Backer, MD, Michael Sautel, BS, Vincent R. Zales, MD, and David L. Wessel, MD

1772 Myocardial Lactate Dehydrogenase Subunit Ratio in Cardiac Allograft Recipients
Bernard Albat, MD, Emile Missov, MD, Anne-Marie Boullaran, MD, Marc Ferrière, MD, Isabelle Serre, MD, Bernard Descomps, MD, and Paul-André Chaptal, MD

1778 Intraoperative Epicardial Echocardiography in Assessing Pulmonary Artery Banding Procedures
Narayanswami Sreeram, MRCP, Ranjit Jagtap, FRCS, Eric D. Silove, FRCP, William J. Brawn, FRCS, and Babulal Sethia, FRCS

1783 De Novo Solid Malignancies After Cardiac Transplantation
Daniel J. Goldstein, MD, Deborah L. Williams, RN, Mehmet C. Oz, MD, Alan D. Weinberg, MS, Eric A. Rose, MD, and Robert E. Michler, MD

CASE REPORTS

1790 Bleeding Esophageal Duplication Detected in Utero
Matthias Peiper, MD, Wolfgang Lambrecht, MD, Dietrich Kluth, MD, and Bernd Hüneke, MD

1791 Nitric Oxide Treatment for Pulmonary Hypertension After Neonatal Cardiac Operation
Aamir S. Shah, MD, Arthur J. Smerling, MD, Jan M. Quaegebeur, MD, and Robert E. Michler, MD

1794 Closed Atrial Septectomy With Brock Punch Aided by Operative Transesophageal Echocardiography
John M. Simpson, MRCP, David R. Anderson, FRCS, and Shakeel A. Qureshi, FRCP

1795 Adenocarcinoma of the Neo-Esophagus After Collis Gastroplasty
Donna E. Maziak, MDCM, Michael R. Johnston, MD, and Alan G. Casson, MB, ChB

1797 Giant Bronchoesophageal Fistula: A Rare Complication of Bronchial Artery Embolization
Hon-Ki Hsu, MD, and Jang-Ming Su, MD

1798 Arteriovenous Malformation of the Esophagus Disguised as a Leiomyoma
Anastasios K. Konstantakos, MD, William I. Douglas, MD, Fadi W. Abdul-Karim, MD, Jai H. Lee, MD, and Alexander S. Geha, MD

1800 Coronary Grafting Using a Temporary Intraluminal Shunt Instead of Heart-Lung Bypass
Mark M. Levinson, MD, and Gregory S. Fooks, CCP

1801 Extracorporeal Membrane Oxygenation for the Treatment of Massive Pulmonary Embolism
Michael J. Davies, FRCS, Saify S. Arsiwala, MCh, Hillary M. Moore, RCN, Steven Kerr, FCRAP, Andrezej W. Sosnowski, MD, and Richard K. Firmin, FRCS

1803 Systemic Lupus Erythematosus Valvulitis: Mitral Valve Replacement With a Homograft
Sylvain M. Chauvaud, MD, Afkendiyos Kalangos, MD, Alain J. Berrebi, MD, Jullien A. R. Gaer, FRCS(Ed), Christophe Acar, MD, and Alain F. Carpentier, MD, PhD

1806 Surgical Management of Pulmonary Carcinoma Secondary to Recurrent Respiratory Papillomatosis
Andreas Sakopoulos, MD, Kenneth A. Kesler, MD, Edward C. Weisberger, MD, Mark W. Turrentine, MD, and Dewey J. Conces, Jr, MD

1807 Tricuspid Valve Repair by Septal or Posterior Leaflet Transposition
Afkendiyos Kalangos, MD, PhD, Ari Baldovinos, MD, Ozge Sezerman, MD, and Bernard Faidutti, MD

1810 Coronary Subclavian Steal: A Recurrent Case With Notes on Detecting the Threat Potential
Gerald M. FitzGibbon, LRCP&S(Ireland), and Wilbert J. Keon, MD

1812 Diagnosis of Postpneumonectomy Bronchopleural Fistula Using Ventilation Scintigraphy
Frank A. Pigula, MD, Robert J. Keenan, MD, Keith S. Naunheim, MD, Peter F. Ferson, MD, and Rodney J. Landreneau, MD

1814 Thrombosis of Mitral Valve Bioprostheses in Patients Requiring Circulatory Assistance
Michael T. Hagley, MD, Angel Lopez-Candales, MD, Kenneth J. Phillips, MD, Bill B. Daily, MD, PhD, and Nicholas T. Kouchoukos, MD

1816 Three-Channelled Aortic Dissection
Susumu Ishikawa, MD, Tsuguo Hasegawa, MD, Katsuo Fuse, MD, Morito Kato, MD, Osamu Kamisawa, MD, and Yasuo Morishita, MD

1818 Resection of an Adult Intracardiac Wilms' Tumor Using Hypothermic Circulatory Arrest
Peter Fonseca, MD, G. Hossein Almassi, MD, and Frank Begun, MD

HOW TO DO IT

1821 Anastomosis Technique for High Pharyngogastrotomy
Mark J. Krasna, MD, Stanley D. Phillips, MD, William C. Gray, MD, and John F. Biedlingmaier, MD

1824 Technique to Protect the Internal Mammary Artery Pedicle
Carlos Blanche, MD, and Alberto Santibanez-Gallerani, MD

1826 Protection of the Right Internal Mammary Artery in the Retrosternal Position With Stented Grafts
Anoar Zacharias, MD

1829 New Technique for Lesser Saphenous Vein Harvesting
Jeffrey A. Lamphere, PA-C, Pat O. Daily, MD, Ricardo J. Moreno, MD, Stephen Marcus, PA-C, Walter P. Dembitsky, MD, Robert M. Adamson, MD, Margaret Burr, RN, and Patricia O'Neill, RN

OUR SURGICAL HERITAGE

1831 The Phantom of "Myocardial Sinusoids": A Historical Reappraisal
John C.-C. Tsang, MD, and Ray C.-J. Chiu, MD, PhD

CURRENT REVIEWS

1836 Results With Mechanical Cardiac Valvular Prostheses
Cary W. Akins, MD

1845 Obliterative Bronchiolitis After Lung and Heart-Lung Transplantation
Hermann Reichensperner, MD, PhD, Reda E. Girgis, MB, BCh, Robert C. Robbins, MD, John V. Conte, MD, Rajan V. Nair, MD, Vincent Valentine, MD, Gerald J. Berry, MD, Randall E. Morris, MD, James Theodore, MD, and Bruce A. Reitz, MD

UPDATES

1854 Tracheal Sleeve Pneumonectomy for Bronchogenic Carcinoma: Report of 55 Cases
Philippe G. Darteville, MD, Paolo Macchiarini, MD, and Alain R. Chapelier, MD

1856 The Long-Term Success of Skeletal Muscle in Aortic Repair
Timothy J. Gardner, MD

CORRESPONDENCE

1857 Severe Chest Wall Constriction From Growth Retardation After Too Extensive and Too Early (<4 Years) Pectus Excavatum Repair: An Alert
J. Alex Haller, Jr, MD

1858 Pulmonary Nodule Location by Coil Injection
Philippe M. Eucher, MD, Jean-Paul Haxhe, MD, Jean-François De Wispelaere, MD, Serge Broka, MD, and Jean-Claude Schoevaerdts, MD
Reply
Hisao Asamura, MD, Haruhiko Kondo, MD, and Tsuguo Naruke, MD

1859 Biatrial Approach to Atrial Myxoma
Simon W. MacGowan, FRCSI, and Eilis M. McGovern, FRCSI

Reply
David R. Jones, MD

1860 Superior Transseptal Approach to Left Atrial Myxomas
Mario Viganò, MD, Antonino M. Grande, and Roberto Gaeta, MD

1861 Carbon Dioxide Gas Blow for the Safe Visualization of Coronary Artery Anastomosis
Shiro Sasaguri, MD, Yasuyuki Hosoda, MD, and Shin Yamamoto, MD

Reply
Tomas A. Salerno, MD

1861 Mitral Valve Replacement With Complete Retention of Native Leaflets
Amit Banerjee, MCh, Mohammed Akhter, MCh, and Sudarshan K. Khanna, MCh

Reply
Thomas J. Vander Salm, MD, Linda A. Pape, MD, and Jonathan F. Mauser, MD

1862 Optimizing Cardiomyoplasty Results: Importance of Muscle Contraction Timing
Roberto Lorusso, MD, Ottavio Alfieri, MD, Frederik van der Veen, PhD, and Jan Schreuder, MD, PhD

1863 Operation for Type A Aortic Dissection
Gerald M. Lemole, MD

1864 Pulmonary Resection Complicated by Abrupt Pericardial Tamponade
Eduardo A. Tovar, MD

REVIEW OF RECENT BOOKS

1703 Esophageal Surgery, edited by F. Griffith Pearson, Jean Deslauriers, Robert J. Ginsberg, Clement A. Hiebert, Martin F. McKneally, and Harold C. Urschel, Jr
Mark K. Ferguson, MD

ANNOUNCEMENTS

A-39, 40	Information for Authors
A-41	Guidelines for the Submission of Electronic Manuscripts
A-42, 43	Events of Interest
A-44	Forthcoming Articles
1608	The Society of Thoracic Surgeons: Thirty-Second Annual Meeting

1664, 1820	Important Announcement for Presenters at the Annual Meeting of The Society of Thoracic Surgeons
1670, 1828	Notice From the American Board of Thoracic Surgery
1865	Thirty-second Annual Meeting of The Society of Thoracic Surgeons
1866	Twenty-ninth Postgraduate Program, The Society of Thoracic Surgeons

1867	Program for the Thirty-second Annual Meeting of The Society of Thoracic Surgeons
------	---

A-45-47	Classified Advertisements
---------	----------------------------------

INDEX TO VOLUME 60

1877	Author Index
1917	Subject Index

Number 6**December 1995 Supplement**

S489 In Honor of Aldo R. Castañeda: Introduction to Castañeda Festschrift
Robert M. Sade, MD, Giovanni Stellin, MD, and Dominique R. Metras, MD

S491 Aldo R. Castañeda: Apollonian Surgeon
Robert M. Sade, MD

CHILDREN'S HOSPITAL CONTRIBUTIONS

S494 University of Wisconsin Cerebroplegia in a Piglet Survival Model of Circulatory Arrest
Joseph M. Forbess, MD, Juan Carlos Ibla, MD, Hart G. W. Lidov, MD, PhD, Mark A. Cioffi, MAT, Takeshi Hiramatsu, MD, Peter Laussen, MB, BS, Takuya Miura, MD, and Richard A. Jonas, MD

S501 Age Differences in Effects of Hypothermic Ischemia on Endothelial and Ventricular Function
Takeshi Hiramatsu, MD, Gregor Zund, MD, Marc L. Schermerhorn, MD, Toshiharu Shin'oka, MD, Takuya Miura, MD, and John E. Mayer, Jr, MD

S505 Protein Kinase C Activation in the Heart: Effects on Calcium and Contractile Proteins
Percival Buenaventura, MD, Hung Cao-Danh, PhD, Paul Glynn, PhD, Ko Takeuchi, MD, Shoichi Takahashi, MD, Elena Simplaceanu, MS, Francis X. McGowan, Jr, MD, and Pedro J. del Nido, MD

S509 Recent Advances in the Laboratory of Molecular and Cellular Cardiology
Roger E. Breitbart, MD, Barry London, MD, PhD, Hanh T. Nguyen, PhD, and Carol A. Satler, MD, PhD

S513 Tissue Engineering Heart Valves: Valve Leaflet Replacement Study in a Lamb Model
Toshiharu Shinoka, MD, Christopher K. Breuer, MD, Ronn E. Tanel, MD, Gregor Zund, MD, Takuya Miura, MD, Peter X. Ma, PhD, Robert Langer, PhD, Joseph P. Vacanti, MD, and John E. Mayer, Jr, MD

S517 Restructuring of Cardiovascular Services at Children's Hospital, Boston, Massachusetts
Patricia A. Hickey, MS

PERIOPERATIVE MANAGEMENT

S520 Percutaneously Adjustable Pulmonary Artery Band
Ali Ahmadi, MD, Joachim Rein, MD, Klaus Hellberg, MD, and Christian Bastanier, MD

S523 End-Tidal CO₂ Levels Are a Reliable Indicator of Band Tightness in Pulmonary Artery Banding
Aram K. Smolinsky, MD, Ami Shinfeld, MD, Gideon Paret, MD, Yaron Bar-El, MD, Violetta Glauber, MD, Esther L. Shabtai, MSc, and Julius Hegesh, MD

S525 Low-Flow Cardiopulmonary Bypass: Importance of Blood Pressure in Maintaining Cerebral Blood Flow
Robert E. Michler, MD, Aqeel A. Sandhu, MD, William L. Young, MD, and Arthur E. Schwartz, MD

S529 Aprotinin in Children Undergoing Repair of Congenital Heart Defects
Patricia A. Penkoske, MD, Lucy M. Entwistle, MD, B. Elaine Marchak, MD, Robert F. Seal, MD, and William Gibb, CPC

S533 Efficacy of Leukocyte Filters in the Bypass Circuit for Infants Undergoing Cardiac Operations
Robert Englander, MD, and Marcelo G. Cardarelli, MD

S536 Ventricular Assist Devices in Pediatric Cardiac Surgery
Robert J. Costa, MBBS, Richard B. Chard, FRACS, Graham R. Nunn, FRACS, and Timothy B. Cartmill, FRACS

S539 Intraoperative Echocardiography During Congenital Heart Operations: Experience From 1,000 Cases
 Ross M. Ungerleider, MD, Joseph A. Kisslo, MD, William J. Greeley, MD, Jennifer S. Li, MD, Ronald J. Kanter, MD, Frank H. Kern, MD, Scott R. Schulman, MD, James W. Nesmith, RDCS, J. William Gaynor, MD, and A. Resai Bengur, MD

TREATMENT OF SINGLE VENTRICLE

S543 Avoidance of Subaortic Obstruction in Staged Management of Single Ventricle
 Marshall L. Jacobs, MD, Jack Rychik, MD, Mary T. Donofrio, MD, James M. Steven, MD, Susan C. Nicolson, MD, John D. Murphy, MD, and William I. Norwood, Jr, MD, PhD

S546 Modified Norwood Procedure for Hypoplastic Left Heart Syndrome
 Charles D. Fraser, Jr, MD, and Roger B. B. Mee, FRACS

S550 Factors Influencing Perioperative Morbidity During Palliation of the Univentricular Heart
 John J. Lamberti, MD, Richard D. Mainwaring, MD, Robert L. Spicer, MD, Karen C. Uzark, PhD, and John W. Moore, MD

S554 Modified Hemi-Fontan Operation: An Alternative Definitive Palliation for High-Risk Patients
 Christopher J. Knott-Craig, MD, Tammi Fryar-Dragg, RN, Edward D. Overholt, MD, Jerry D. Razook, MD, Kent E. Ward, MD, and Ronald C. Elkins, MD

S558 Bidirectional Cavopulmonary Shunt in Patients With Multiple Risk Factors
 Florentino J. Vargas, MD, Gustavo Mengo, MD, Juan P. Gallo, MD, Carlos B. Skerl, MD, María E. Ranzzini, MD, and Juan C. Vazquez, MD

S563 Total Cavopulmonary Anastomosis in Patients Less Than Three Years of Age
 Renate Kaulitz, MD, Gerhard Ziemer, MD, Ingrid Luhmer, MD, Thomas Paul, MD, and Hans C. Kallfelz, MD

S568 Conversion of the Hemi-Fontan Procedure to Fenestrated Total Extracardiac Cavopulmonary Bypass
 Hani A. Hennein, MD, Hidayet T. Kililtan, MD, and Robert M. Sade, MD

S572 Surgical Reinterventions After Modified Fontan Operations
 Vladimir P. Podzolkov, MD, Sergey B. Zaetz, MD, Bagrat G. Alekyan, MD, Mikhail R. Chiaureli, MD, Ivan A. Yurlov, MD, and Igor G. Chernikh, MD

TRANSPLANTATION

S578 Bilateral Single-Lung Transplantation in Children
 Dominique Metras, MD, Bernard Kreitmann, MD, Alberto Riberi, MD, Laurent Viard, MD, Adrienne Pannetier, MD, Olivier Garbi, MD, Jean-Yves Marti, MD, and Michel Noirclerc, MD

S582 Newborn Baboon Immunity: Lessons in Cross-Species Transplantation
 Robert E. Michler, MD, Daniel P. O'Hair, MD, He Xu, PhD, Aamir S. Shah, MD, and Silviu Itescu, MD

S585 Orthotopic Heart Transplantation With Preservation of the Left Heart
 Bernard Kreitmann, MD, Alberto Riberi, MD, Tania Attali, MD, Maria Zeranska, MD, Marie-Ange Silicani, MD, and Dominique Metras, MD

REPORTS ON SPECIFIC MALFORMATIONS

S588 Repair of Tetralogy of Fallot in the First Six Months of Life: Transatrial Versus Transventricular Approach
 Giovanni Stellin, MD, Ornella Milanesi, MD, Maurizio Rubino, MD, Guido Michielon, MD, Roberto Bianco, MD, Giorgio Svaluto Moreolo, MD, Roumiana Boneva, MD, Carlo Sorbara, MD, and Dino Casarotto, MD

S592 Routine Primary Repair of Tetralogy of Fallot in Neonates and Infants Less Than Three Months of Age
 V. Mohan Reddy, MD, John R. Liddicoat, MD, Doff B. McElhinney, Michael M. Brook, MD, Paul Stanger, MD, and Frank L. Hanley, MD

S597 Ross/Konno Procedure for Critical Aortic Stenosis in Infancy
 John H. Calhoon, MD, and Joe W. R. Bolton, MD

S600 Extending the Limits of the Ross Procedure
 V. Mohan Reddy, MD, Hiranya A. Rajasinghe, MD, Doff B. McElhinney, Jacques A. M. van Son, MD, PhD, Michael D. Black, MD, Norman H. Silverman, MD, and Frank L. Hanley, MD

S604 Left Atrioventricular Valve Incompetence After Repair of Common Atrioventricular Canal Defects
 Guido Michielon, MD, Giovanni Stellin, MD, Giulio Rizzoli, MD, Ornella Milanesi, MD, Maurizio Rubino, MD, Giorgio Svaluto Moreolo, MD, and Dino Casarotto, MD

S610 Institutional Experience With a Protocol of Early Primary Repair of Double-Outlet Right Ventricle
 Christo I. Tchervenkov, MD, Daniel Marelli, MD, Marie J. Béland, MD, James E. Gibbons, MD, Marc Paquet, MD, and Anthony R. C. Dobell, MD

S614 Partial Anomalous Pulmonary Venous Connection to the Superior Vena Cava
Robert A. Gustafson, MD, Herbert E. Warden, MD, and Gordon F. Murray, MD

OTHER OBSERVATIONS

S618 Long-Term Follow-up of the St. Jude Medical Prosthesis in Pediatric Patients
Allison K. Cabalka, MD, Robert W. Emery, MD, Rebecca J. Petersen, RN, Hovald K. Helseth, MD, Malathi Jakkula, MD, Kit V. Arom, MD, PhD, and Demetre M. Nicoloff, MD, PhD

S624 Bicuspid Homograft Reconstruction of the Right Ventricular Outflow Tract in Infants
Francesco Santini, MD, and Alessandro Mazzucco, MD

S626 The Large Septal Arteries in Normal Hearts, in Aortic Valve Disease, and in Tetralogy of Fallot
João Q. Melo, MD, Miguel E. Abecasis, MD, Jose S. Neves, MD, Luis O. Bruges, MD, Sância B. Ramos, MD, and Ana Paula M. F. Martins, MD

S629 Cryosurgical Ablation of Fetal Atrioventricular Node: New Model to Treat Fetal Malignant Tachyarrhythmias
Renato S. Assad, MD, Vera D. Aiello, MD, Marcelo B. Jatene, MD, Roberto Costa, MD, Frank L. Hanley, MD, and Adib D. Jatene, MD

